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# RFP Journal of Hospital Administration

July-December 2020  
Volume 4, Number 2

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## Perceived Barriers Limiting Tobacco Cessation Counseling in Patients with Mental Illness – A Cross-sectional Study

Banu Manickam Rajalu

**How to cite this article:**

Banu Manickam Rajalu/ Perceived Barriers Limiting Tobacco Cessation Counseling in Patients with Mental Illness – A Cross-sectional Study. RFP Journal of Hospital Administration. 2020;4(2):65-71

### Abstract

**Introduction:** Tobacco use in mentally ill patients is comparatively high than the general population. A nurse-managed smoking cessation intervention can increase cessation rates for hospitalized patients. However, many perceived barriers limit their capacity in providing tobacco cessation counseling.

**Aim:** This study aims to assess the nurses' perceived barriers in tobacco cessation counseling and their ability to tailor the counseling method.

**Methods:** A cross-sectional research design was selected. The sample size was 90 with a response rate of 78 (86.7%). Nurses working in the mental health department in a multi-specialty hospital, Bengaluru, India, were selected by purposive sampling technique. Items for assessing the barriers limiting cessation counseling was extracted from a self-administered "Smoking - Knowledge, Attitudes, and Practices" scale. Frequency and percentage were used for statistical analysis.

**Results:** A majority of the nurses perceived "lack of time", "lack of training" and "other health problems requiring attention" as a "very important" barriers; "patients not interested", "patients do not comply", "lack of impact on patients", "lack of patient education material", "lack of community resources to refer patients" and "complexity of smoking cessation guidelines" as "somewhat important" barriers; and "lack of reimbursement" as "only slightly important" barriers limiting the capacity to provide tobacco counseling services. Also, a majority agreed on their ability to tailor cessation counseling according to the patients' needs.

**Conclusion:** Nurses encounter many barriers of varying importance in providing tobacco cessation counseling. However, they agree with their ability to tailor counseling according to individual needs. The health care system should control the barriers and empower the nurses in implementing tobacco cessation counseling.

**Keywords:** Perceived barriers; Tobacco cessation; Counseling, Nurses; Ability and Mental illness.

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### Key Messages

Tobacco use increases the tobacco-related comorbidity and worsening of psychiatric symptoms in patients with mental illness. Despite nurses' ability to tailor counseling services according to the needs, several barriers hamper tobacco cessation counseling, as perceived by them. The health care system should act to control barriers and empower nurses.

### Introduction

Tobacco use is one of the preventable causes of mortality and morbidity worldwide. It causes major health problems in an otherwise healthy human. Tobacco use may be associated with other substance-use disorders such as alcohol, cannabis, and opiate dependence.<sup>1</sup> Despite affecting all bodily organs, tobacco use kills people due to major health issues such as cardiovascular disease, stroke, cancer, and respiratory diseases.<sup>2</sup>

Tobacco use in people with mental health problems is common and is associated with heavy use.<sup>3</sup> Smoking prevalence in mentally ill patients is comparatively high than any other general population.<sup>4</sup> In particular, it is still high in patients with severe mental illness and further gets magnified with a greater number of psychiatric diagnoses.<sup>5</sup> Persons with serious mental illness die 25 years earlier than average, often from tobacco-related illnesses.<sup>5</sup> The self-medication hypothesis explains that persons with mental illness use tobacco to

reduce the intensity of their psychiatric symptoms.<sup>6</sup> In contrast, evidence report that tobacco use may worsen psychiatric symptoms like depression and anxiety.<sup>7</sup> Tobacco use and psychiatric symptoms are bidirectional in influencing each other. Tobacco use increases the rate of metabolism, reducing the drug therapeutic level in the blood, thereby increasing the need for an increased dose of antipsychotic drugs.<sup>8</sup> Tobacco use combined with mental illness may also lead to repeated hospitalization.<sup>9</sup>

Patients admitted to the hospital have the opportunity of being helped by health professionals to quit tobacco. A study by Siru et al. (2009) reported that among smokers hospitalized with mental illness, 65% showed interest in quitting tobacco use, yet require professional help.<sup>10</sup> Excitingly, nurses are said to be a large and strategically planned group to help avert the global tobacco epidemic.<sup>11</sup> A nurse-managed smoking cessation intervention can significantly increase cessation rates for hospitalized patients.<sup>12,13</sup>

This research is undertaken to assess the barriers and their intensity in counseling patients with mental illness. This study also aimed to assess the nurses' beliefs about their ability to modify counseling according to individual needs.

## Material and Methods

### Setting and Participants

The cross-sectional study was conducted in a multi-specialty hospital, Bengaluru, India, which includes specialties in mental health. The nurses working in the mental health department were selected for the study by a purposive sampling technique. Ninety nurses who volunteer in participation were selected for the study.

### Selection criteria

#### Inclusion criteria

Both male and female nurses working in mental health units and have atleast 2-3 weeks of clinical experience in patients with substance use disorder.

#### Exclusion Criteria

Nurses who do not wish to consent for the study and are on night shifts.

### Measures

#### Demographic Data survey Tool

The demographic data consists of age, sex, marital

status, religion, professional qualification, and professional experience to find out the personal profile of the study subjects.

#### Barriers Scale

A self-administered Smoking Knowledge, Attitudes, and Practices (S-KAP) scale<sup>14</sup> consisted items for measuring barriers, rating the importance of various reasons that might limit the capacity to offer smoking counseling - "not at all important", "only slightly important", "somewhat important" and "very important" barriers. The tool also has one item for assessing the ability to tailor cessation counseling according to patients' needs. Scale properties were indexed by Cronbach's alpha coefficient with 95% confidence intervals using Kistner and Muller's F approximation.<sup>15</sup> The barriers scale had a Standardized Cronbach's alpha coefficient of 0.81 and has reasonably good psychometric characteristics that allow researchers to quantify staff barriers in smoking cessation treatments.<sup>16</sup>

### Study Procedure

Permission was taken from the hospital where the study was conducted. Permission was obtained through email from the tool developer to use the scale (S-KAP). The nature of the study was explained to the participants. Written consent was obtained after ensuring the confidentiality of their identity and individual responses. In April 2019, the questionnaire was distributed and collected from all areas of the nurses working in mental health units during the coffee break time. It took less than 10 minutes of their time to fill the questionnaire.

### Statistical Analysis

Data were analyzed using the SPSS 22 version software. The frequency (f) and percentage (%) were used to interpret the results.

### Results

Out of 90 questionnaires distributed, eight were incomplete and four were invalid. Hence a total of 78 questionnaires were complete and analyzed.

### Socio-Demographic data of the study subjects

Among 78 study participants, the majority of the study subjects (43.6%) were in the age group of 31-40 years, 76.9% were females, 73.1% were married, 53.8% were Hindus, and 52.6% had Diploma Qualification with varied professional experience ranging from less than five years to more than 15 years (table 1)

**Table 1:** Socio-Demographic Data of the Study Subjects (N=78)

Socio-demographic Variables	Frequency	Percentage
	(f)	(%)
Age in Years		
20-30	29	37.2
31-40	34	43.6
41-50	12	15.4
51-60	3	3.8
Sex		
Male	18	23.1
Female	60	76.9
Marital Status		
Single	20	25.6
Married	57	73.1
Widow/widower	1	1.3
Religion		
Hindu	42	53.8
Muslim	1	1.3
Christian	35	44.9
Professional Qualification		
Diploma	41	52.6
BSc Nursing	36	46.2
MSc Nursing	1	1.3
Professional Experience		
< 5 year	25	32.1
6-10 years	15	19.2
11-15 years	21	26.9
>15 years	17	21.8

**Barriers limiting capacity to offer tobacco cessation services****Very important barriers**

The factors that the majority of nurses rated as "very important" reason are "lack of time" - 43.6%, "lack of training" - 60.3%, and "other health problems require attention" - 69.2%.

**Somewhat important barriers**

Most of the nurses felt that "patients not interested" - 44.9%, "patients do not comply" - 56.4%, "lack of impact on patients" - 44.9%, "lack of patient education material" - 48.7%, and "complexity of smoking cessation guidelines" - 57.7% are "somewhat important" barriers in providing counseling.

**Only slightly important barriers**

34.6% of the nurses rated "lack of reimbursement" and 23.1% rated "lack of community resource to refer patient" as "only slightly important" reason that incapacitates them in cessation counseling.

**Not at all important barriers**

20.5% of nurses reported a "lack of reimbursement" is "not at all important" reason to prevent nurses' capacity in smoking counseling (Table 2).

**Ability to tailor Tobacco cessation counseling**

While 14.1% of nurses "strongly agreed", the majority of the nurses 57.7% "agreed" their ability

**Table 2:** Barriers that might limit the capacity to offer counseling (N=78)

Barriers	Not at all important		Only slightly important		Somewhat important		Very important	
	Fre (f)	Per (%)	Fre (f)	Per (%)	Fre (f)	Per (%)	Fre (f)	Per (%)
Patient not interested	3	3.8	15	19.2	35	44.9	25	32.1
Patients do not comply	3	3.8	11	14.1	44	56.4	20	25.6
Lack of impact on patients	6	7.7	15	19.2	35	44.9	22	28.2
Lack of time	8	10.3	12	15.4	24	30.8	34	43.6
Lack of reimbursement	16	20.5	27	34.6	18	23.1	17	21.8
Lack of community resources to refer patients	7	9	18	23.1	32	41	21	26.9
Lack of patient education material	3	3.8	13	16.7	38	48.7	24	30.8
Lack of training	1	1.3	5	6.4	25	32.1	47	60.3
Complexity of smoking cessation guidelines	2	2.6	11	14.1	45	57.7	20	25.6
Other health problems require attention	1	1.3	2	2.6	21	26.9	54	69.2

**Table 3:** Ability to tailor tobacco cessation counseling to patients needs (N=78)

I am able to tailor cessation counseling to my patients' needs									
Strongly Fre (f)	Disagree		unsure		agree		strongly agree		Per(%)
	Fre (f)	Per (%)	Fre (f)	Per (%)	Fre (f)	Per(%)	Fre (f)	Per(%)	
0	0	2	2.6	20	25.6	45	57.7	11	14.1

to tailor cessation counseling. 25.6% of nurses were "unsure" about their ability and only 2.6% of nurses "disagreed" their ability to tailor the counseling style according to the patients' needs (Table 3).

## Discussion

### Main Summary

Counseling plays a major role in smoking cessation among individuals. There are various nurse-related and patient-related barriers limiting tobacco cessation counseling. Lack of time, adequate training, and patients' health issues requiring more attention were "very important barriers". Uninterested patients, poor compliance, poor community referral services, lack of patient education material, complex tobacco cessation guidelines, less impact on patients were "somewhat important" barriers and only lack of reimbursement was a "slightly important" barrier in counseling services. However, nurses believe their ability to tailor the counseling method according to the needs of the individual. Counseling, by itself, requires good training and practice while barriers in counseling make it tough to practice.

### Comparison with other studies

Compared with other health professionals, nurses constitute the largest workforce and are readily available for the patients. As patient education and preventive healthcare is an integral component of nursing,<sup>17</sup> improving nurses' involvement in tobacco cessation interventions<sup>18</sup> would help to motivate patients in quitting or cutting down tobacco use. This study reported that "lack of patients' interest" and "lack of counseling impact" on patient's health as "somewhat important" barriers limiting counseling services. Lack of motivation and uninterested are important factors that limit counseling.<sup>19</sup> Low motivation to quit smoking is assumed in smokers with a mental illness. However, no difference in motivation to quit between those with mental illness and the general population is reported.<sup>10</sup>

Patients not complying with the counseling sessions is detrimental to provide cessation services. Treatment adherence and retention are critical

obstacles to overcome in smokers with mental illness.<sup>20</sup> Also, available educational material on tobacco cessation does not cater to the needs of all the patients, in general. It is neither suited to the various literacy levels of the individuals nor readily available. This is consistent with a study where 81% reported a perceived lack of necessary materials as a major barrier in smoking cessation.<sup>21</sup>

Community services that provide tobacco cessation treatment are inadequate for the high prevalence rate of tobacco use. This difficulty to refer patients aids to barriers in rendering counseling care. From this study, nearly one-fourth of the nurses felt that "lack of community resources" was only a 'slightly important' reason that limits them from providing better smoking counseling. In contrast, a survey report implied that 63% of the nurses reported a "lack of community resources to refer to" as a major barrier in smoking cessation.<sup>22</sup>

The most important barriers found from this study was "lack of time" and "lack of adequate training" on tobacco cessation interventions in working place. This might be attributed to the prevailing shortage of working staff and highly demanding work to be carried out while working with patients with mental illness. This leads to inadequate or no time to think about other issues such as tobacco use.

Trained professionals are reportedly 1.5 to 2.5 times more likely to engage in tobacco cessation strategies<sup>23</sup> and a lack of concrete techniques in smoking counseling incapacitates smoking cessation advice.<sup>24</sup> Nurses are overburdened with demands and time pressure<sup>25</sup> along with the lack of familiarity with effective treatments,<sup>26</sup> and absence of adequate training<sup>27</sup> which probably limits them from providing counseling services.

On the other hand, evidence also reported that health professionals do not ask about tobacco usage, do not utilize the available interventions, and do not believe talking about tobacco as worth the benefit to the patient.<sup>28</sup> Even though nurses read available tobacco cessation guidelines, the reading materials seem to be complex to understand. More than half of the nurses in this study reported the "complexity of the guidelines" to be one of the barriers in giving tobacco cessation services.

Patients are primarily admitted for their mental problems in the mental health hospital. Mental health professionals believe that symptoms such as depression, anxiety, positive and negative symptoms, and other psychiatric symptoms require attention and priority. The psychological symptoms, often overshadow the mental health benefits of smoking cessation.<sup>29</sup> However, patients are likely to accept advice on changing their tobacco use habits from an acknowledged expert on health problems.<sup>30</sup> Symptom management is also considered a significant barrier within studies concerning people with a mental illness<sup>31</sup> which is in line with the present study.

While a majority of nurses in this study expressed "lack of reimbursement" as only a "sightly important" barrier, only 20.5% perceived it as a "not at all an important" barrier that limits counseling. In contrast, a study reported that incentives for such activities strongly support the provision of smoking counseling.<sup>32</sup> Additionally, evidence also projected that disincentives or lack of reimbursement are notable barriers in providing counseling services.<sup>33</sup>

Other factors such as inadequate knowledge, resistance to advice, difficulty in follow up, difficulty in assessing patient's level of motivation, inadequate space, and poor peer environment to quit and ineffective pharmacotherapy;<sup>22,34</sup> lack of support from hospital administration, and lack of commitment from other health professionals in hospitals;<sup>35</sup> stigmas, perceived hopelessness for abstinence and lack of focus on tobacco users with mental illness<sup>36</sup> limits health professionals in cessation counseling.

Despite various barriers that constrain the nurses' capacity in tobacco counseling, 57.7% of the nurses agreed and 14.1% strongly agreed on their ability to tailor the tobacco cessation counseling according to the patients' needs. This is in line with another study that emphasized that nurses' self-reported delivery of cessation advice was related to attitudes toward offering counseling advice and perceived ability to offer advice.<sup>24</sup>

### **Strengths and Limitations**

The major strength of this study was readily available research participants for inclusion in the study. The time involved in data collection was much less that encouraged the participants to volunteer for the study. The limitation of the study is the small sample size selected by a purposive

sampling technique. Additionally, as the results were obtained from nurses exclusively working for patients with mental illness, the generalization of the results may be limited.

### **Recommendations**

Further, research with a large population may be recommended. Also, qualitative methods may be adopted to assess the lived-in experience of barriers hindering tobacco cessation counseling.

Based on the study findings, the private and public organizations in the community and hospital levels should meticulously work in coordination to find out the factors preventing adequate tobacco cessation counseling and strive to overcome those obstacles.

Special training in tobacco cessation counseling, availability of patient education materials in different languages with various levels of literacy, imparting tobacco cessation lessons in educational curriculum, availability of a very simple, brief handbook of tobacco cessation guidelines that can also be used in the busy working area, integrating tobacco cessation treatment along with management of psychiatric illness, ongoing and periodic continuing education and training program, exposure to duties in deaddiction units would help in improving the quality, frequency, and intensity of tobacco cessation counseling process.

Moreover, every patient on each visit should be asked about their tobacco use, interest to quit, and offer help readily. The psychiatric inpatient units could serve an important area in promoting tobacco cessation.

### **Conclusion**

Nurses are huge health care professionals who would bring a major revolution in tobacco cessation through effective counseling techniques. Hospitalization provides a unique opportunity for nurses to deliver tobacco cessation counseling services. Nurses encounter many barriers of varying grades of importance that incapacitates in providing tobacco cessation counseling. However, they agree with their ability to tailor counseling according to individual needs. The health care system should investigate the barriers to control them and empower nurses in implementing tobacco cessation counseling, in general, and to

patients with mental illness, in particular.

### Acknowledgement

I extend my sincere thanks to Mr. Delucchi.K for permitting to use the S-KAP instrument in this study.

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## Study of Patient Safety Culture Among Staff at a Tertiary Care Teaching Hospital - A Cross Sectional Study

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### How to cite this article:

Md Sameer<sup>1</sup>, S Satish Kumar<sup>2</sup>, Rama Mohan Desu<sup>3</sup> et al./ Study of Patient Safety Culture Among Staff at a Tertiary Care Teaching Hospital - A Cross Sectional Study/ RFP Journal of Hospital Administration. 2020;4(2):73-76

### Abstract

Focus on patient centred team work is essential in providing quality care through sharing culture of values and principles among the health care professionals. The knowledge, perception and culture of staff need to be understood, assessed and behavioural change is vital in implementing patient safety programme in a hospital. The objective of this study includes the evaluation of knowledge, team work, management support, supervisory skills and event reporting system in the hospital. A Descriptive-cross sectional and questionnaire study was conducted on 49 staff members. 77.6% opined that procedures are in place for preventing errors. 66.66% felt supervisors are supportive and encouraging. 57.20% agreed that there is freedom for discussion and decisions. 59.2% informed that the errors are caught and corrected before incident. 83.70% agreed that the tangibles are good for work environment. 67.40% agreed that patient safety is the highest priority. 58.15% informed that information gap during the shift changes. Constant vigilance and monitoring during shift changes to enhance sharing of information. The reporting of errors should be encouraged and fear of punishment be mitigated. The root causes analysis of events at frequent intervals for preventing further.

**Key Words:** Patient safety, Errors, Incident reporting, Knowledge.

### Introduction

Patient safety is to protect the patients from errors, injuries, accidents, infections etc., during patient diagnosis, treatment and management in the hospital setting. As many as 4,40,000 people die every year from preventable hospital errors.<sup>1</sup> All the stake-holders who are involved in the patient care should understand the factors responsible and act on identifying the root causes and prevent further to classify as variants, near miss and to prevent events.<sup>2</sup> The initiative required by the practising hospital administrators with top

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management support is to assess the status of the issue by assessing the knowledge among the staff and the incident reporting system in the hospital.<sup>3,4</sup> To assess the knowledge on patient safety and incident reporting system among the staff.<sup>5,6</sup> The objectives of the present study were: (1) To understand the knowledge level among staff; (2) To evaluate the reporting system of the incidents; (3) To draw inferences and make recommendations accordingly.

### Methodology

A cross-sectional and patient safety questionnaire based study was conducted on 49 employees of Private Medical College & Hospital, during the month of June, 2019. Agency for healthcare research and quality (AHRQ) questionnaire on patient safety culture taken in this study. Approval taken from the institutional ethics committee. Consent has been taken from staff before collection of questionnaire (Annexure Table 1). The investigator being medical administrator trained in basic research methodology has followed. The data has been prepared and analyzed by using MS-Excel to draw conclusions and recommendations.<sup>7</sup>

### Results and Discussion

The results were divided into seven sections i.e. section A to section G and this study was conducted

on work area/unit (Section-A), Focuses on the supervisory style (Section-B), Communication programme on patient safety (Section-C), frequency of events reported (Section-D), About Your Hospital (Section-E), Number of events reported (Section-E) and patient safety grade (Section-G).

**Table 1:** Hospital Survey on patient safety Section-A

Section-A	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
Q1	4 (8.2%)	4 (8.2%)	4 (8.2%)	33 (67.2%)	4 (8.2%)
Q2	5 (10.2%)	18 (36.7%)	7 (14.3%)	18 (36.7%)	1 (2.0%)
Q3	0 (0.0%)	8 (16.3%)	9 (18.4%)	24 (49.0%)	8 (16.3%)
Q4	3 (6.1%)	1 (2.0%)	7 (14.3%)	28 (57.1%)	10 (20.4%)
Q5	3 (6.1%)	3 (6.1%)	4 (8.2%)	23 (46.9%)	16 (32.7%)
Q6	2 (4.1%)	19 (38.38%)	13 (26.5%)	13 (26.5%)	2 (4.1%)
Q7	2 (4.1%)	8 (16.3%)	16 (32.7%)	20 (40.8%)	3 (6.1%)
Q8	1 (2.0%)	12 (24.5%)	8 (16.3%)	28 (57.1%)	0 (0.0%)
Q9	4 (8.2%)	13 (26.5%)	8 (16.3%)	23 (46.9%)	1 (2.0%)
Q10	1 (2.0%)	2 (4.1%)	5 (10.2%)	28 (57.1%)	13 (26.5%)

Q1, Q3, Q4, and Q5:- 55.05% agreed that peoples support each other

Q2: 1/3rd of sample perceived that staffs are sufficient, whereas another 1/3rd of sample perceived that staffs are inadequate may lead to error.

Q7: 40.8% agreed that they are working in crisis mode

Q8: 57.1% Agreed that patient safety is never sacrificed against to get more work done

Q9: 46.9% agreed that staff worry that mistakes they make are kept in their personal files.

### **Section A: -Work area/Unit**

Patient safety requires a team approach to safeguard the patient through implementing protocol. The supervision and coordination by the treating is essential part of care. The co-operation among the staff determines the ultimate efficiency of the total team.

Q10: 77.6% agreed that procedure and systems are good from preventing the errors.

### **Section B:-Your Supervisor**

Focuses on the supervisory style and skill of the team leader i.e., the departmental head or unit head or nursing supervisor. Patient safety should be treated as an important aspect of care which needs constant supervision and supporting the staff in monitoring the reporting system of incidence and taking appropriate action for quality improvement.

**Table 2:** Hospital Survey on patient safety Section-B.

Section-B	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
Q1	1 (2.0%)	2 (4.1%)	7 (14.3%)	34 (69.4%)	5 (10.2%)
Q2	2 (4.1%)	1 (2.0%)	5 (10.2%)	33 (67.2%)	8 (16.3%)
Q3	1 (2.0%)	8 (16.3%)	5 (10.2%)	31 (63.3%)	4 (8.2%)

**Table 3:** Hospital Survey on patient safety Section-C.

Section-C	Never	Rarely	Sometimes	Most of times	Always
Q1	1 (2.0%)	10 (20.4%)	17 (34.7%)	9 (18.4%)	12 (24.5%)
Q2	14 (28.6%)	8 (16.3%)	17 (34.7%)	7 (14.3%)	3 (6.1%)
Q3	1 (2.0%)	5 (10.2%)	20 (40.8%)	10 (20.4%)	13 (26.5%)
Q4	2 (4.1%)	10 (20.4%)	9 (18.4%)	21 (42.9%)	7 (14.3%)
Q5	3 (6.1%)	5 (10.2%)	18 (36.7%)	6 (12.2%)	17 (34.7%)

Q1, Q2, Q3:- 66.66% overall agreed that subordinates were felt that the supervisor are supportive and encouraging and respect their suggestions about patient safety.

### Section C:-Communication

Communication is said to be vital part in patient safety programme. This studies indicate the communication errors are one of the reasons leading to errors. The information and communication channels in the clinical areas with the supportive services like laboratory, radiology and pharmacy etc., were identified to ensure patient safety.

Q1-Information about changes-38% sometimes agreed. Q2-Freedom for communication-34.7%

sometimes agreed. Q3-Information about errors-46.9% sometimes agreed

Q4-Free to question the decisions-57.20% most of the times agreed

Q5-Ways to prevent errors-46.9% always agreed

*Section D:-*First do no harm is the objective of all members of health care team. Even though, to err is human the incidence whether near miss or event has to be documented, reported, and discussed for root cause analysis. The objective is not punitive action but only for learning from mistakes and preventing further. The quantity (no) and quality (type) of incidence should be reported to the concerned authorities at appropriate schedule times.

**Table 4:** Hospital Survey on patient safety Section-D.

Section-D	Never	Rarely	Sometimes	Most of times	Always
Q1	8 (16.3%)	10 (20.4%)	19 (38.8%)	5 (10.2%)	7 (14.3%)
Q2	2 (4.1%)	21 (42.9%)	10 (20.4%)	11 (22.4%)	5 (10.2%)
Q3	10 (20.4%)	17 (34.7%)	8 (16.3%)	7 (14.3%)	7 (14.3%)

Q1-59.2%-caught and corrected before affecting the patient

Q2-63.3% (rarely, sometimes),32.6% (most of the time, always)-No potential to harm the patients.

Q3-50% (rarely, sometimes), 28.6% (most of the time, always)-Could harm the patient

*Section E:-* The tangibles/Environment/ Infrastructure.

The physical infrastructure, Equipment and the management should ensure a comfortable environment for all categories of staff.

**Table 5:** Hospital Survey on patient safety Section-E.

Section-E	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
Q1	2 (4.1%)	1 (2.0%)	5 (10.2%)	29 (59.2%)	12 (24.5%)
Q2	2 (4.1%)	22 (44.9%)	7 (14.3%)	16 (32.7%)	2 (4.1%)
Q3	2 (4.1%)	4 (8.2%)	5 (10.2%)	22 (44.9%)	16 (32.7%)
Q4	1 (2.0%)	9 (18.4%)	14 (28.6%)	23 (46.9%)	2 (4.1%)
Q5	3 (6.1%)	6 (12.2%)	23 (46.9%)	15 (30.6%)	2 (4.1%)
Q6	4 (8.2%)	6 (12.2%)	6 (12.2%)	19 (38.8%)	14 (28.6%)
Q7	6 (12.2%)	7 (14.3%)	7 (14.3%)	22 (44.9%)	7 (14.3%)
Q8	2 (4.1%)	1 (2.0%)	5 (10.2%)	27 (55.1%)	14 (28.6%)
Q9	3 (6.1%)	20 (40.8%)	14 (28.6%)	6 (12.2%)	6 (12.2%)

Q1- 83.7% (Agree, strongly agree)-Agreed to strongly agree that hospital work climate is good.

Q2- 44.9% Agreed that hospital units co-ordinates well.

Q3- 77.6% agreed that good cooperation.

Q4, Q9-58.15% Agreed that information lost during shift changes

Q6-67.4%-Agreed patient safety is the top priority

Q7-59.2%-opined that hospital management shows interest after the incident(knee jerk reaction) followed by to prevent further incident.

*Section F:-*

38.8% informed that 1 to 2 event reports

**Table 6:** Hospital Survey on patient safety Section-F.

Section-F	No event reports	1-2 event reports	3-5 event reports	6-10 event reports	11-20 event reports
Q1	16 (32.7%)	19 (38.8%)	3 (6.1%)	5 (10.2%)	6 (12.2%)

### Section G:-Overall grade of hospital

Table : Hospital Survey on patient safety Section-G.

Section-G	Excellent	Very Good	Acceptable	Poor	Very Poor
Q1	5 (10.2%)	27 (55.1%)	16 (32.7%)	0 (0.0%)	1 (2.0%)

### Conclusions and Recommendations

83.70% of the sample agreed that the tangibles are facilitating working environment. 77.60% opined policies and procedures are in place for preventing errors. Two thirds of staff opined that supervisor or unit heads are supportive and allowed for their input for decision making. 59.20 % informed that the errors are caught before incident happens. Rest of them opined there is scope to enhance systems in place to identify, monitor and reporting errors.

One third of staff opined the staff; patient ratio and work load impedes the process .the documentation and reporting the incidents is about 2 to 3 in each area. 58.15% agreed that sharing information during shift changes is adequate.

Constant vigilance and monitoring by the supervisors especially during shift changes to enhance the sharing of information .The reporting of errors should be encouraged and fears of punishments are mitigated. The Root cause analysis of events at frequent intervals for preventing further.

### *Limitations of the Study*

Any questionnaire study will have subjective bias and the opinion/perception depends on the individual knowledge, experience and education background.

98%-Felt overall patient safety is maintained. 2% felt, it is poor

### *Acknowledgements*

We thank Agency for healthcare research and quality (AHRQ) questionnaire designers, the Dean and Medical Superintendent for encouragement for the study and the staff who have Co Operated and supported for the Questionnaire. We also thank Mr P Masthanaiah, Departmental Secretary.

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## Unsafe Abortion for unwanted Pregnancies: A Preventable Health Hazard Leading to Maternal Mortality

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**How to cite this article:**

Abhishek Yadav<sup>1</sup>, Antara Debbarma<sup>2</sup>, Surbhee Garg<sup>3</sup>, et al./Unsafe Abortion for unwanted Pregnancies: A Preventable Health Hazard Leading to Maternal Mortality/ RFP Journal of Hospital Administration. 2020;4(1):77-80

### Abstract

Unsafe abortion is critical public health problem and one of the risk factor contributing to maternal deaths. An abortion is labelled as "Unsafe" when it is carried out either by an untrained or unauthorized person lacking the necessary Medical qualifications or in an unhygienic environment that does not conform to minimal medical standards, or both<sup>1</sup>. The authors report the case of a young adult female, who died due to complication of self-induced unsafe abortion. The authors aim to highlight the risk and fatality associated with unsafe abortion and also the fact that despite so much public awareness programmes female are still being exposed to dangerous abortion methods which leads to life-threatening condition of the woman and even fatality as in this case. The Medical facilities with appropriate equipment, trained staff at a reasonable cost, Post Delivery/Post abortion family planning counselling and awareness about contraceptive use may be helpful and useful in addressing the issue.

**Keywords:** Self-induced abortion, Unsafe Abortion, MTP Act 1971, MTP (Amendment) Bill 2020.

### Introduction

An abortion is labelled as "Unsafe" when it is carried out either by an untrained or unauthorized person lacking the necessary Medical qualifications or in an unhygienic environment that does not conform to minimal medical standards, or both<sup>1</sup>. Any woman with an unwanted pregnancy who cannot access or be allowed safe abortion under MTP rules is at risk of unsafe abortion. Women living in low socioeconomic class are more likely to have an unsafe abortion. Deaths and injuries are higher when unsafe abortion is performed later in pregnancy<sup>2</sup>. Globally, 55.7 million abortions occurred yearly between 2010 and 2014 out of which 45.1% were unsafe<sup>3</sup>. Ten women reportedly die due to unsafe abortions every day in India<sup>4</sup>. The authors report the case of a young adult female,

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who died due to complication of self-induced unsafe abortion. The authors aim to highlight the risk and fatality associated with unsafe abortion and also the fact that despite so much public awareness programmes female are still being exposed to dangerous abortion methods which leads to life-threatening condition of the woman and even fatality as in this case.

### Case Report

We report the case of a young adult female who presented to the Emergency Department of a tertiary care hospital in Delhi in evening with complaints of restricted neck and mouth movements. She was conscious, oriented and was having stable vitals at the time of admission. She was having history of an episode of fever 4 days back which relieved with medications and difficulty in opening the mouth since one day. The patient was subsequently evaluated by ENT, Dental and Medicine departments of the same Hospital and was found to have tonic contraction of body. Bilateral plantar reflexes were decreased. No abnormality was detected in rest of the investigation and clinical findings. She was then referred to the Neurology Department of a nearby Hospital Specialized for "Brain Mind Problems and their Solutions" where Motor weakness and tonic clonic contractions were

noted. She was further referred to the All India Institute of Medical Sciences (AIIMS), New Delhi. The patient was taken by the Husband on next day Morning with complaints of fever, headache, altered sensorium and abnormal contraction of body. Patient was intubated and on detailed history it was revealed by her husband that patient had been involved in self induced abortion one month back. There were no traumatic injuries, such as bruising, haematoma or lacerations.

An ultrasound examination revealed the presence of products of conception and a bedside urinary pregnancy test was positive. The patient was managed with the tentative diagnosis of Septic abortion/ tetanus with septic shock. Blood investigations revealed increased ALP & AST enzymes, increase in value of parameters of coagulation profile, C-reactive protein, Interlukin-1 and Pro-calcitonin. The patient survived for one day and died on the morning of subsequent day. Though no foul play/ allegation was alleged by the relatives but still a Medicolegal case was made due to suspicion of self induced abortion by non-therapeutic means and a Medicolegal Autopsy was conducted,

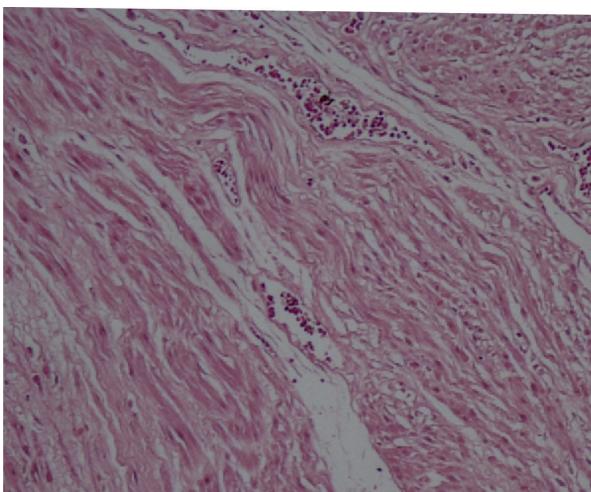
#### *Post-mortem examination*

Patient was thin built and pale. The subcutaneous tissues were also pale. No external injury was present over the body. Brain and Lungs were pale and oedematous and about 200-300ml of straw fluid present in pleural cavity on each side suggestive of pulmonary edema. Petechial haemorrhages present over the epicardial surface of heart. About 800 ml of yellowish ascitic fluid present in the peritoneal cavity. Liver and gallbladder were pale and adherent to the surrounding structures. All other solid abdominal visceral organs were pale. Uterus was enlarged weighing 214 gms and measuring 11x12x4 cm.

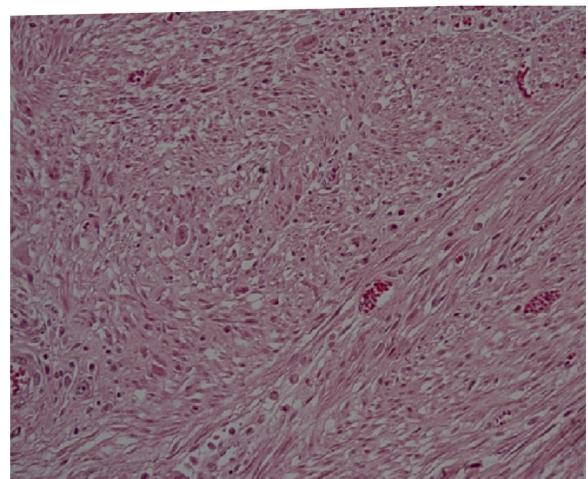
Endometrium was thickened and pale. Thickened necrotic placental remnants were present over the fundus (Image-1). Toxicology report was negative for common poisons and drugs. The histopathology of uterus showed pale placental remnants, Endometrium and myometrium shows hyperplastic and hypertrophic changes with multiple foci haemorrhages present all over uterus (Image-2). Section of Ovary shows corpus leutem cyst attached with leutinized tissue.



Fig. 1: Thickened Endometrium with necrotic placental remnants over the fundus.



**10 x Resolution**



**20 X Resolution**

Fig. 2: Uterine Histopathology showing hyperplastic myometrium.

## Discussion

Unsafe abortion is critical public health problem and one of the risk factor contributing to maternal deaths. Major reasons for self-induced abortions are strict provisions of MTP ACT, socioeconomic problems, social stigma, minor age pregnancy, poor accessibility to quality healthcare services for MTP, easy access to quacks and misleading information. Women, including adolescent girls, with unwanted pregnancies often resort to unsafe self-induced abortion due to fear of society or are unable to access safe abortion facility due to MTP Act rules<sup>1,2,5</sup>. The deceased in the present case was a married woman for twelve years with three living children. Though no proper history could be elicited from the relatives, the authors assume that she must have got pregnant accidentally but couldn't take MTP as per the existing legal provisions and resorted to self induced abortion. Another reason may be that the patient belonged to low socioeconomic strata and instead of going to any registered Medical Practitioner she would have taken advice from some quacks/unauthorised person and resorted to self-induced abortion.

Women are exposed to harmful effects on their health and body even life-threatening complications like haemorrhage, infection, injury to the genital tract and internal organs<sup>1,2,5,6</sup>. Unsafe abortions are extremely dangerous when they involve ingestion of caustic substances or untrained persons use dangerous methods such as insertion of foreign bodies, or use of traditional concoctions. They are less safe, when done using outdated methods like sharp curettage even if the provider is trained or if women using tablets do not have access to proper information or to a trained person if they need help.<sup>7</sup>

In the reported case, the patient and the husband didn't provide the correct history when they first presented to the two hospitals. Only when the patient was admitted in AIIMS, New Delhi and her condition deteriorated then only the husband revealed to the doctors about self induced abortion. The timely revelation would have led to the proper treatment and could have saved the life of the patient. In this case elevation of liver enzymes coagulation profile, C-reactive protein, Interlukin-1 and Procalcitonin confirms the diagnosis of sepsis. The organs of the deceased were pale. The Elevation of liver enzymes reflect the haemolytic process as well as liver involvement.<sup>8,9</sup> The cause of death was concluded for Medicolagl purpose as Multiple organ failure due to complications of Abortion.

In India, voluntarily terminating a pregnancy is only allowed under the provisions of Medical Termination of Pregnancy Act, 1971 (MTP act) by registered medical practitioners. Any abortion outside of the purview of the act is considered as Criminal Abortion 10,11 and is a criminal offence under the Indian Penal Code, 1860 (IPC).<sup>12</sup>

The termination can only be carried out only if 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 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. The MTP Act does not allow even the pregnant woman to terminate the pregnancy at her will and pleasure<sup>10,11,12</sup>.

The choice and liberty of woman to terminate the pregnancy as a part of her rights and the obligation of the state to protect life of the foetus, has been a debatable issue not only in India but across the world. In present MTP act there is provision of termination of pregnancy by a married woman due to failure of contraceptive method or device, up to 20 weeks in the case of failure of contraceptive method or device. The proposed MTP (Amendment) Bill 2020, Passed in Lok Sabha on 17 Mar 2020 relaxes the strict provision of MTP Act including allowing of unmarried women to terminate a pregnancy because of contraceptive failure and increase the upper limit for termination from 20 to 24 weeks for certain categories of women.<sup>13</sup>

## Conclusion

Unsafe abortion is an easily preventable but an important cause of maternal mortality. Though there are continuous Public health awareness programmes run by Central and State Governments including NGO's even at peripheral level but still a gap exists and should be abridged to overcome cultural and social misconceptions which restrict women from receiving proper health care in such cases. The Medical facilities with appropriate equipment, trained staff at a reasonable cost, Post Delivery/Post abortion family planning counselling and awareness about contraceptive use may be helpful and useful in addressing the issue.

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## Tetralogy of Fallot: Cause of Sudden Cardiac Death in Young Individual

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### How to cite this article:

Abhishek Yadav, Balaji D, Swati Tyagi, et al. Tetralogy of Fallot: Cause of Sudden Cardiac Death in Young Individual. RFP Journal of Hospital Administration. 2020;4(2):81-84

### Abstract

Congenital Heart Diseases (CHD) include the abnormalities of the heart and great vessels that are present at birth. Individuals with CHDs may survive till adulthood. We report a case of sudden cardiac death in a young adult who was suffering from Tetralogy of Fallot (TOF) with Atrial septal defect (Pentalogy of Fallot) -a CHD. He collapsed in the hospital premises and was immediately admitted and treatment ensues, but couldn't be saved. Autopsy revealed an oval shaped defect in interatrial septa, Right Ventricular hypertrophy, overriding of Aorta and Pulmonary atresia. Coronaries were patent. The authors aim to highlight the need of early diagnosis and timely intervention in such heart diseases. The authors also intend to add to Medical Literature that TOF may be the cause of a sudden death.

**Key words:** Tetralogy of Fallot, Congenital Heart Disease, Sudden Cardiac Death, Right Ventricular Dysfunction.

### Introduction

Cardiovascular diseases (CVD's) are well established cause of Sudden deaths with increasing frequency in young adults<sup>1,2,3</sup>. Coronary artery disease (CAD) is the main cause of Sudden Cardiac deaths (SCD)<sup>1,4</sup>. In the previous issue of this journal, a case report of SCD of a young individual was reported to indicate increased risk of Sudden Cardiac Death due to underlying CAD in young adults. Besides CADs, other causes of SCD include disease of pericardium & myocardium, valvular disorders or aortic disorders, which in young adults may be due to genetic or hereditary causes<sup>1,4</sup>. Congenital Heart Diseases (CHD) include the abnormalities of the heart and great vessels that are present at birth. CHDs are one of the most

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prevalent birth defects with an incidence of 5%. Severe anomalies are incompatible with survivals leading to intrauterine deaths whereas some CHD, like septal defects, unilateral obstructions & outflow tract, produce clinical manifestation only after birth<sup>4</sup>. Individuals with CHDs may survive till adulthood<sup>4</sup>. We report a case of sudden cardiac death in a young adult with history of Tetralogy of Fallot -a CHD. The authors aim to highlight the risk of sudden fatality associated with this condition and also intend to add to Medical Literature that CHDs may be the cause of sudden death.

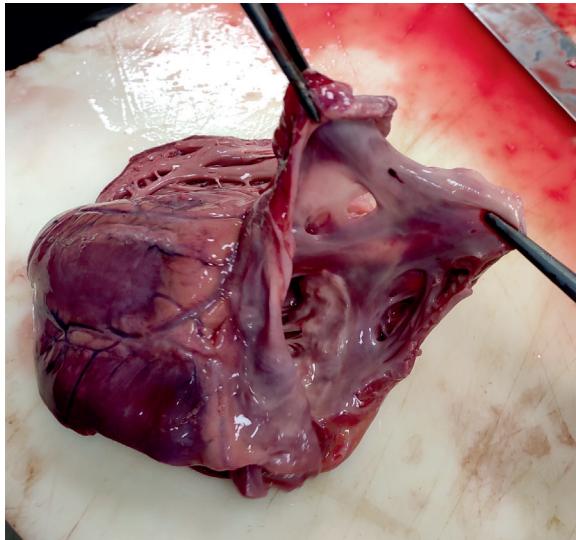
### Case Report

A 25 years old young male collapsed and became unconscious at about 12 pm in Cardiology wing of All India Institute of Medical sciences, New Delhi after which he was admitted and expired during the treatment on same day at about 10:54 pm. In postmortem examination, clothes were intact. Bluish discolouration i.e. cyanosis along with clubbing was present over nail beds of both hands (Image-1). No external injuries were present over the body. Brain was edematous weighing 1050 gms with clotted blood seen in 3<sup>rd</sup> and 4<sup>th</sup> Ventricles. Pleura was adherent to overlying chest wall and underlying lungs on both the sides. Lungs were congested and adherent to chest wall. Heart was weighing 275 gms. On dissection an oval shaped

defect of  $0.2 \times 0.1$  cm is present in inter-atrial septa (**Image-2**). Right Ventricular hypertrophy was present (**Image-3**). Over riding of Aorta and Pulmonary atresia is present. Coronaries were patent. Stomach was containing about 100 ml of clotted blood with no peculiar smell and normal mucosa. Other Visceral organs were congested. The hospital record revealed that the deceased was suffering from a Congenital Cyanotic Heart Disease (CCHD) with reduced pulmonary flow - Tetralogy of Fallot with Pulmonary atresia and Hypoplastic Left Pulmonary Artery. The cause of death was concluded as "Myocardial Insufficiency consequent upon Tetralogy of Fallot- a congenital heart disease and the manner was decided as Natural".



**Fig. 1** Cyanosis along with clubbing present over nail beds of hands.

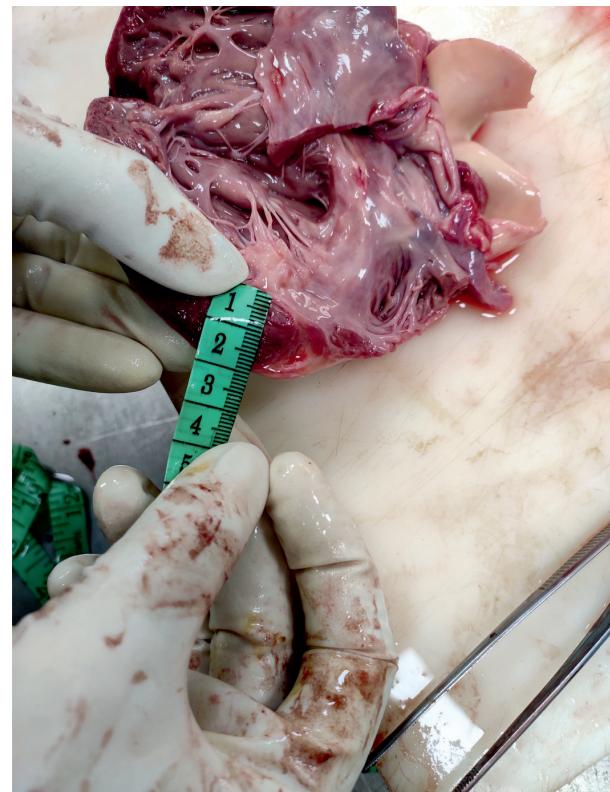


**Fig. 2** An oval shaped defect of  $0.2 \times 0.1$  cm is present in inter-atrial septa.

## Discussion

Tetralogy of Fallot (TOF) is the most common in Cyanotic form of Congenital Heart Diseases (CHD)

and is symptomatic manifest early in postnatal life due to right to left shunt. Transposition of the great arteries, persistent truncus arteriosus, tricuspid atresia, and total anomalous pulmonary venous connection are some of the other disorders in the group<sup>4,5</sup>. TOF is characterized by<sup>4,5</sup>



**Fig. 3** Right Ventricular hypertrophy

1. Ventricular Septal Defect (VSD).
2. Obstruction of the right ventricular outflow tract: It is usually due to narrowing of the infundibulum (subpulmonic stenosis) but can be accompanied by pulmonary valvular stenosis (sub pulmonary stenosis),
3. Aorta overriding VSD: The VSD is usually large with the aortic valve at the superior border. So Aorta overrides the defect and both ventricular chambers.
4. Right ventricular hypertrophy: The heart is enlarged and "boot-shaped" due to marked right ventricular hypertrophy.

Diagnosis of TOF is confirmed by Echocardiography. The patients with TOF can survive into adult life even if they did not receive treatment. 10% of untreated patients are alive at 20 years and 3% survive for 40 years. The clinical course depends primarily on the severity of the subpulmonary stenosis, which leads to hypoplastic pulmonary arteries and larger overriding of

Aorta<sup>4,5,6</sup>. The deceased in the present case survived till 25 years of age. The deceased had The irony of the case is that the deceased was collapsed while sitting in the OPD waiting area of cardiology block of AIIMS, Hospital. He was immediately take to emergency and administered treatment but still could not be saved. The terminal event leading to death was mentioned as Cardiogenic Shock in the hospital records.

Surgical repair is the mainstay treatment of TOF. Early repair is advised to minimize the effect of long-standing hypoxia and pressure overload. The optimal timing for surgical correction in children is less than 1 year of age in developed countries. Corrective surgery of TOF is often conducted in newborn period when the symptoms of cyanosis are present. Complete surgical repair is possible but becomes complicated for individuals with pulmonary atresia and dilated bronchial arteries<sup>4-7</sup>. The s of the surgery are good and most patients with TOF have an uneventful postoperative course. Postoperative Right Ventricle (RV) myocardial dysfunction may lead to surgical complication and even death<sup>5,6</sup>. Death is caused by ventricular tachycardia and fibrillation and is related to postoperative right ventricular hypertrophy or dilation mainly as a of pulmonary valve stenosis or regurgitation<sup>8-10</sup>.

Detailed perusal of Treatment Records revealed that deceased was operated in 2003 with Blalock and Taussig Shunt. Blalock-Taussig shunt (BTS) is the main first step first-surgical management for patients for maintaining pulmonary blood flow<sup>11</sup>. Yamada<sup>11</sup> reported a case of women with TOF with BTS operation at 10 years of age who survived upto 72 years despite no medication. In the present case deceased was operated in 2003 when he was of 9 years old but in 2019 his right side of Shunt was found blocked which decreased his life expectancy. He was currently suffering from occluded right side Blalock and Taussig Shunt, Conical Patent Ductus Arteriosus with distal Left Pulmonary artery (LPA) insertion site stenosis. Major Aorto Pulmonary Collateral Arteries (MAPCA) were also present. Echocardiography report of deceased conducted in June 2019 revealed TOF with pulmonary atresia and overriding of Aorta.

Achour<sup>12</sup> reported a rare case of TOF with pulmonary atresia in a 40-year-old survivor patient, despite a chronic pediatric shunt thrombosis. The patient became symptomatic at 38- years-old with progressive dyspnea on exertion and short cyanosis spells but prolonged survival was due to expansion

of several and huge major aorto-pulmonary collateral arteries, a finding similar to the present case.

In the present case, the deceased was also found having Atrial Septal defect (ASD) at Autopsy which was not diagnosed in Hospital investigation reports. This condition is called as Pentalogy of Fallot. Pentalogy of Fallot is a rare form of cyanotic congenital heart disease, characterized by an association of ASD with TOF<sup>13</sup>. Lsaksen et al reported that 4% of major and 18% of minor findings detected on autopsy were not found on ultrasound examination<sup>14</sup>. Shang Gao studied the comparison of Fetal Echocardiographic (FE) diagnoses with cardiac autopsy findings and concluded that 11.7% (20/171) of cases, autopsies disclosed new deformities which were either not diagnosed or misdiagnosed by FE<sup>15</sup>.

## Conclusion

TOF is treatable with good postoperative recovery. Early diagnosis and timely surgical intervention is of the essence else it may lead to sudden fatality. Verification of an antenatal diagnosis of cardiac anomaly in a fetus or an infant by autopsy plays an important role in the further management and survival. In an undiagnosed case of SCD TOF may be the cause of death and same should also be kept in consideration while treating a collapsed patient in emergency department.

## Conflict of Interest: Nil.

*Funding: None*

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## 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.

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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

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## 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](http://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.

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