Original Article

PREVALENCE OF FORENSIC CASES IN MEDAN CITY REGIONAL GENERAL HOSPITALS IN 2020-2021 AS AN EVALUATION OF FORENSIC SPECIALIST DOCTOR EDUCATION PROGRAM NETWORK HOSPITALS

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Abstract: Backgrounds: Forensic medicine is a specialist branch of medical science that utilizes medical science to assist law enforcement and solve legal problems. The scope of forensic medicine is evolving from time to time. From the beginning only on the death of crime victims, unexpected and suspected deaths, unidentified corpses, to crime victims who are still alive, or even skeletons, tissues and biological material suspected of human origin. The types of cases also widen from murder, violations, sexual crimes, domestic violence, child abuse and neglect, lawsuits for divorce, fraud and misuse of insurance, to violations of human rights. Graduates of forensic and medicolegal specialists are expected to be able to diagnose and manage forensic medical cases in accordance with individual, team or institutional roles, and manage forensic medicine installations in health care facilities or other institutions that meet professional and service standards Objective: To determine the prevalence of forensic cases in Medan City Regional General Hospital in 2020-2021 as well as the profile of each case that will be used as evaluation material as a network

hospital which has so far built collaboration between the Faculty of Medicine, University of North Sumatra , in this case the Forensic Study Program, and the Medan City Regional General Hospital in forensic specialist education program activities. Methods: This research is a descriptive study with a cross-sectional design to see the prevalence of forensic cases as an evaluation of the hospital forensic specialist education network program. Results : Based on the results of data analysis and discussion that has been carried out in the study of the prevalence of forensic cases at the Regional General Hospital in Medan City in 2020-2021, it can be concluded that as many as 33 cases were studied in the forensic case prevalence study at the Medan City Hospital, with a variety of cases, namely 29 cases of traffic accidents (87.8%), 1 case of abuse (3.0%), 2 cases of domestic violence (6.2%), and 1 sudden death (3.0%). The researcher concluded that the number and variety of forensic cases in Medan City General Hospital tended to be less compared to other studies.

Keyword: Forensics, Death, Violence, Crime

Introduction: Forensic medicine is a specialist branch of medical science that uses medical science to assist law enforcement and solve problems in the legal field. The scope of forensic medicine has expanded over time. From initially only the deaths of crime victims, unexpected and unexpected deaths, unidentified corpses, to crime victims who are still alive, or even skeletons, tissue and biological material thought to be of human origin. The types of cases range from murder, abuse, sexual crimes, domestic violence, child abuse and neglect, divorce disputes, insurance fraud and abuse, to human rights violations 1.

Forensic and medicolegal specialist medical education has 7 (seven) competency areas that must be fulfilled, namely professional ethics and noble professionalism, forensic and medicolegal fields, self-awareness, personal development and lifelong learning, effective communication and collaboration skills, research, information management and evidence-based medicine, scientific foundations of forensic medicine, case management and forensic medicine management

skills, as well as upholding justice based on humanities, bioethics, discipline, law and human rights. From this explanation, the graduate is a forensic and medicolegal specialist doctor expected to be able to diagnose and manage forensic medicine cases according to individual, team or institutional authority, and manage forensic medicine installations in health service facilities or other authorized institutions in accordance with professional and service standards.

Clinical abilities within this competency standard can be achieved through continuous education and training in order to absorb developments in medical science and technology. Exposure to a large and varied number of patient cases helps students to improve clinical skills in order to achieve the expected competencies 3.

Forensic and Medicolegal Specialist Doctor Education Program, Faculty of Medicine, University of North Sumatra with the main teaching hospital at H. Adam Malik Hospital Medan and network hospitals at Dr. Pirngadi and North Sumatra University Hospital, in

recent years, the number of cases has been very low so it is felt necessary to evaluate them as network hospitals as educational places with the number of cases during 2020-2021.

This study aims to determine the prevalence of forensic cases in the Medan City Regional General Hospital in 2020-2021 as well as the profile of each case which will be used as evaluation material as a network hospital.

So far, collaboration has been built between the Faculty of Medicine, University of North Sumatra, in this case the forensic study program, and the Medan City Regional General Hospital in forensic specialist medical education program activities.

Method

This research is a descriptive study with a cross-sectional design to see the prevalence of forensic cases as an evaluation of network hospital forensic specialist education programs. This research was carried out at the forensic installation of the Medan City Regional General Hospital, Jalan Prof. H. Yamin, SH No. 47 Perintis, Medan Barat, Medan. The population in this study was all forensic cases at the Medan City Regional General Hospital in January 2020 - December 2021. Sampling in this study was based on a total sampling technique, namely the entire population was used as the research sample. Sampling in this study was based on a total sampling technique, namely all forensic cases at the Medan City Regional General Hospital in 2020-2021.

Results

The results of this research are the results of research collected from secondary data, in the form of Visum et Repertum (VeR) data on victims of violence against people who died at the Medan City Regional General Hospital in January 2020 - December 2021. The research sample was taken entirely from the data (total sampling). The number of victims treated at RSUD based on the number of post mortems and repertums that met the inclusion and exclusion criteria was 33 cases with 4 types of case variations. The data obtained from this research was then analyzed in univariate form to see the frequency distribution of patients/victims based on the independent variables in the research. This independent variable is a demographic variable that describes the characteristics of the patient/victim, which includes gender, age and degree of injury. The frequency distribution of forensic cases at Medan City Hospital in January 2020 - December 2021 can be seen in the table below.

Table 1: Frequency distribution of forensic cases handled at Medan City Regional Hospital in 2020-2021

No.	Case	Frequency	Percentage
1.	Traffic accident	29	87.8%
2.	Persecution	1	3.0%
3.	Domestic violence	2	6.2%
4.	Sudden death	1	3.0%
	Total Cases	**33**	**100.0%**

In table 1, it can be seen that from 2020 to 2021, Medan City Regional Hospital handled 33 forensic cases. Of the 33 cases, there were 4 types of case variations, namely traffic accidents in 29 cases (87.8%), abuse in 1 case (3.0%), domestic violence in 2 cases (6.2%), and Sudden death in 1 case (3.0%). The highest prevalence of cases was caused by traffic accidents, namely 29 cases (87.8%). This is in line with research conducted by

Wiraagni and Widihartono (2016) stated that the most common forensic cases involving living people were abuse cases, namely 109 cases (45%), while in death cases, 23 cases (100%) were accident cases4. Research by Sulistiyowati and Senewe (2014) in hospitals in 12 districts/cities in Indonesia also stated that traffic accidents were the main cause of death in the 15-34 year age group 5.

Table 2.Traffic Accident Frequency Distribution Table based on Characteristics

Characteristics	Frequency	Percentage
Gender		
Man	**26**	**89.6%**
Woman	3	10.4%
Age		
< 11	0	0.0%
11-20	7	**24.2%**
21-30	5	17.2%
31-40	4	13.8%
41-50	6	20.6%
>50	**7**	**24.2%**
Degree of injury		
Light	0	0.0%
Currently	0	0.0%
Heavy	0	0.0%
Dead	**29**	**100%**
Total	29	100%

In table 2, it is found that of the 29 cases of traffic accidents during the period 2020 – 2021 at the Medan City Regional Hospital, the majority of victims were male, with the number 26 people (89.6%), while the victims were female, numbering 3 people (10.4%). Based on age group, the majority of victims were aged 11-20 years, namely 7 people (24.2%) and over 50 years old, namely 7 people (24.2%). Based on the degree of injury, all cases were fatalities.

This is in line with research by Clarke et al., (2004) which states that young male drivers, namely 15-24 years, tend to experience deaths due to traffic accidents at a higher rate than other ages, namely around 67% of the total. total motor vehicle accidents6.

Research conducted by Kartika (2008) also stated the same thing. This may be because men tend to drive vehicles at higher speeds than women, so the risk of traffic accidents is higher in men 7.

The results of this research are also in line with research conducted by Sondakh et al., (2015), which states that the majority of traffic accident victims are of productive age. This may be because in this age range, people of productive age tend to have higher mobility and be more busy than other age groups. Similar to this, research in Manado also shows that the age interval 15-24 years (37.79%) is the highest percentage of accidents 8.

Table 3. Table of Frequency Distribution of Persecution based on Characteristics

Characteristics	Frequency	Percentage
Gender		
Man	1	**100%**
Woman	0	0%
Age		
< 11	0	0.0%
11-20	0	0.0%
21-30	0	0.0%
31-40	0	0.0%
41-50	**1**	**50.0%**
>50	0	0.0%
Degree of injury		
Light	0	0.0%
Currently	0	0.0%
Heavy	0	0.0%
Dead	**1**	**100%**
Total	1	100%

In table 3, it is found that the majority of victims of abuse who entered the Medan City Regional Hospital in 2020-2021 were men aged 41-50 years. Of the 1 case of abuse during the period 2020 – 2021 at the Medan City Regional Hospital, all were male (100%). Based on age group, there was 1 victim aged 41-50.

The results of this research are in line with the results of an epidemiological study conducted by WHO in 2014. The results of this study stated that male victims accounted for 82% of the total cases, with four times more male victims than female victims on average. 1,000,000 inhabitants 9.

However, based on the age range, the results of this study are not in line with research conducted by Wiraagni and Widihartono (2016), in hospitals in 12 districts/cities, which stated that the majority of victims of physical violence or abuse were in the age range 15-29 years. This may be due to differences in the degree of injury to the victim. In research conducted by Wiraagni and Widihartono, all victims of abuse were still alive and there were no dead

victims in cases of abuse, whereas in this study, all victims of abuse were dead victims. In addition, people aged 41-50 years tend to be at the peak of career and family life, so there may be many stressors originating from the social and family environment which can influence emotional instability which can trigger conflicts and fights4.

Table 4.Table of Frequency Distribution of Domestic Violence based on Characteristics

Characteristics	Frequency	Percentage
Gender		
Man	0	0.0%
Woman	2	**100.0%**
Age		
< 11	0	0.0%
11-20	0	0.0%
21-30	0	0.0%
31-40	0	0.0%
41-50	0	0.0%
>50	2	100.0%
Degree of injury		
Light	0	0.0%
Currently	0	0.0%
Heavy	0	0.0%
Dead	2	**100%**
Total	2	100%

In table 4, it is found that of the 2 cases of domestic violence during the period 2020 – 2021 at the Medan City Regional Hospital, of 50 years, namely 2 people (100%). Based on the degree of injury, all cases were fatalities.

The results of this research are in line with the results of an epidemiological study conducted by Ana Rita Pereira in 2013. The results of this study stated that female victims reached 100% of the total cases, with the average victim being a young adult woman (20- 40 years), not working (39%), murdered by current husband in a long-term relationship (62%), usually with the same children (53%) and showing a previous history of IPV (47%). The typical perpetrator is a man 5.5 years older than the victim, employed (at least 34%), with a history of substance abuse and psychiatric problems the majority of victims were female, namely 2 people (100%). Based on age group, the majority of victims were older at least, in 18% and 16% respectively), usually own a firearm (95% of known cases) and without a known criminal record (70%)10.

However, based on the age range, the results of this study are not in line with research conducted by Ana Rita Pereira (2013), it was found that rthe average age of victims was 43.8 years, although almost 50% were aged 20 to 40 years. The average perpetrator was 49.3 years old and the most common age group was 40 to

50 years. At the time of death, most women (38.7%) were not working (housewives, unemployed or retired) and most men were actively working (33.9%)10.

Table 5.Sudden Death Frequency Distribution Table based on Characteristics

Characteristics	Frequency	Percentage
Gender		
Man	**1**	**100.0%**
Woman	0	0.0%
Age		
< 11	0	0.0%
11-20	0	0.0%
21-30	0	0.0%
31-40	0	0.0%
41-50	**1**	**100.0%**
>50	0	0.0%
Degree of injury		
Light	0	0.0%
Currently	0	0.0%
Heavy	0	0.0%
Dead	**1**	**100.0%**
Total	1	100.0%

In table 5, it is found that of 1 case of sudden death during the period 2020 – 2021 at the Medan City Regional Hospital, the majority of victims were male, namely 1 person (100%). Based on age group, the majority of victims were aged 41-50 years, namely 1 person (100%). Based on the degree of injury, all cases were fatalities.

The results of this study are in line with research conducted by Nofal (2011), at a large university hospital in the Eastern region of Saudi Arabia over a 6 year period. The authors stated that based on the medical files of 1,273 consecutive deaths, investigated retrospectively, 223 (17.5%) cases of sudden death were demonstrated. However, based on age, the results of this study are in line with previous research which stated that the majority of victims suddenly were male, namely around 56.0% of cases 11.

The incidence of sudden death was highest at the 2 extreme ages (32.2% were infants and 31.4% were elderly). There is seasonal variation, with the highest incidence (29.6%) during spring followed by summer (25.1%). The most important immediate causes of sudden death were cardiovascular disease in 59.2% of cases, respiratory disease in 24.7%, diabetes mellitus in 23.8%, liver disease in 23.3% and infectious disease in 20.2% 11.

Discussion

Based on the number and variety of cases as explained above, it was found that the number and variety of forensic cases in the Medan City Regional Hospital tended to be less than in other studies. This may be because all the data evaluated in this study are cases of death victims. Even though when compared with the number of dead victims in several other studies, the cases of dead victims found in this study tend to be more numerous than in other studies, the variation and number of cases of live victims found in this study tend to be very small.

Conclusion

Based on the results of data analysis and discussions that have been carried out in research on the prevalence of forensic cases in the Regional General Hospital of Medan City in 2020-2021, it was concluded that as many as 33 cases were studied in the research on the prevalence of forensic cases in the Regional General Hospital of Medan City, with a variety of cases, namely There were 29 cases of traffic accidents (87.8%), 1 case of abuse (3.0%), 2 cases of domestic violence (6.2%), and 1 case of sudden death (3.0%).

In traffic accident cases, the majority of victims are male, with the majority of victims aged 11-20 years and over 50 years. In cases of abuse, the majority were male, aged 41-50 years. In cases of domestic violence, the majority of victims are women, over 50 years old. In cases of sudden death, the majority of victims male, aged 41-50 years.

Based on the number and variety of cases above, the researchers concluded that the number and variety of forensic cases in the Medan City Regional Hospital tended to be less than in other studies. Because of this, the Medan City Regional Hospital tends to be less

suitable as a forensic specialist educational network hospital, due to the lack of number and variety of forensic cases at the hospital.

SUGGESTION

Based on the number and variety of cases above, researchers recommend carrying out more detailed and comprehensive data collection and case writing so that all cases can be identified and can be used as better learning material.

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