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Post Mortem of Press Releases of the First 300 COVID-19 Deaths in Sri Lanka

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Abstract

Coronavirus Disease 2019 (COVID-19) had massive health, economic, social, and fiscal demands on governments. Communicating about the COVID-19 deaths to the general public by the governments is a challenging task. Department of Government Information (DOGI) communicated about the COVID-19 deaths in Sri Lanka by publishing daily press releases online and in other audio-visual media. The objective of this study was to examine the DOGI press releases of the first 300 COVID-19 deaths in Sri Lanka in retrospect. The information on COVID-19 deaths and associated factors were extracted and analyzed from the press releases. Eighty-nine press releases issued from 25.05.2020 to 30.01.2021 on the first 300 COVID-19 deaths were analyzed. Out of the 300 deaths, the information was available on 271 out of 300 deaths (90.33%) in the DOGI press releases we studied. For the large majority (264, 97.41%) of the deaths, the Director General of Health Services was stated as the source of information. The majority of the persons who died were over 60 (n = 191, 70.48%). Most of the persons who died from COVID-19 were males, n = 168, 61.99%, and were from the Colombo district (n = 165, 60.88%). Most of the deaths (n = 177, 65.31%) have occurred while the patient was taking treatment in a hospital. The most common comorbidity reported among the persons who died of COVID-19 was hypertension (n = 24, 8.86%). Publication of written press releases summarizing the information on COVID-19 deaths in Sri Lanka is a best practice in reporting mortality and communicating risk. The analysis of press releases of COVID-19 deaths can provide useful information about the mortality pattern, which is recommended to be carried out regularly.

Key words: COVID-19, deaths, mortality, risk communication, post-mortem, press releases

1. Introduction

Coronavirus Disease 2019 (COVID-19) has made massive health, economic, social, and fiscal demands on governments (OECD 2020). As per 31.05.2021, a total of 170,075,692 cases and 3,540,604 deaths have been reported globally (WHO 2021b). The provision of health care to COVID-19 patients could be a nightmare for governments with increasing case numbers with relatively limited hospital beds and resources in developed and developing countries (Sen-Crowe et al. 2021).

While struggling with the operational aspects of providing care for the sick, there was a need to engage the community to adopt healthy behaviors through proper and effective risk communication strategies (Abrams and Greenhawt 2020). The World Health Organization has recognized risk communication as a critical component of the Strategic Preparedness and Response Plan adopted by the respective governments under the ten pillars to face the COVID-19 pandemic at the country level (WHO 2021a). Communicating to the general public on COVID-19 deaths had tested the risk communication abilities of the governments (Hyland-Wood et al. 2021; Radwan and Mousa 2020; Sjölander-Lindqvist et al. 2020). Despite the efforts by the governments to manage the pandemic, COVID-19 deaths have often been seen as "failures" of such efforts (Altman 2020; Ham 2021). Thus, communicating about deaths to the general public involved some level of breaking the bad news. In addition, such communications were used to advocate the need for strict adherence to the health guidelines by the general public.

As per 31.05.2021, 183,452 cases and 1441 deaths have occurred in Sri Lanka (Epidemiology Unit 2021a). Even though the proportional mortality of COVID-19 has been relatively low in Sri Lanka compared to the rest of the world, communicating about COVID-19 deaths to the public by no means had been an easy task for the government of Sri Lanka (Health Promotion Bureau 2021).

The information on COVID-19 deaths is collected from the hospitals by the health sector. Next, the number of deaths is updated on the COVID-19 situational update by the Epidemiological Unit and its daily situational report (Epidemiology Unit 2021a). A weekly report of COVID-19 deaths has been published since 15.05.2021(Epidemiology Unit 2021b). The information about the deaths is provided to the media by press conferences held daily, often jointly by the health and security sector (Department of Government Information 2021b). A press release containing the information of the deaths is published on the Department of Government Information (DOGI) website (Department of Government Information 2021a). The information about the COVID-19 deaths is also broadcast in the audiovisual, print and social media as news.

The analysis of press releases on COVID-19 deaths could provide a rapid and overall picture of the mortality associated with the pandemic. It can provide important information about the COVID-19 deaths and their associated factors. At times, this could be the only information that would be made publicly available on COVID-19 deaths within a reasonable time of their occurrence. In addition, press releases are an integral part of the public narrative of the government of Sri Lanka concerning the COVID-19 pandemic and its management (Ganz 2008). Thus, the analysis of the press releases of the COVID-19 deaths, when available, could provide valuable information about the mortality patterns of the disease.

This study's objective was to analyze the press releases of the first 300 COVID-19 deaths in Sri Lanka to understand the sociodemographic characteristics, source of information of the death, cause and setting of the death, and the associated comorbidities if any.

Methodology

We analyzed the press releases of the first 300 COVID-19 deaths issued by the DOGI and published on its website (Department of Government Information 2021a). We downloaded all available press releases that carried information of COVID-19 deaths. We prepared a PowerPoint presentation containing all available such press releases.

We created a data collection format to extract the following information from the press release:

- Serial number of the death
- The date of death
- Date of announcement of the death
- The person who issued the information about the death
- Sociodemographic characteristics about the person who died
- Age
- Sex
- Ethnicity
- Geographic location
- Any special characteristics mentioned
- The cause of death
- The setting of death – hospital or community
- Comorbidities reported in the press release (Diabetes, hypertension, heart disease, liver disease, kidney disease, lung disease, cancer, or any other disease that was stated).

The data were extracted by two investigators independently by reviewing the PowerPoint Presentations. Subsequently, the information was cross-checked by a third investigator. The data was entered and analyzed in Microsoft Excel and IBM SPSS Statistics Version 24. Numbers and percentages were calculated for each variable. In addition, the data for all 300 deaths were summarized as a series of color-coded matrices, allocating one square per death.

Results:

Eighty-nine press releases issued from 25.05.2020 to 30.01.2021 on the first 300 COVID-19 deaths were analyzed. The availability of details on the particular death was presented in Figure 2.

Out of the 300 deaths, the information was available on 271 out of 300 deaths (90.33%) in the press releases we studied.

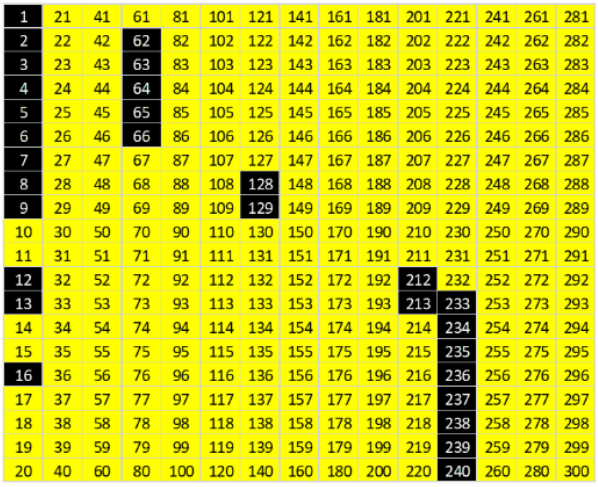


Figure 1 : Availability of Information of First 300 COVID-19 Deaths as Reported in the Press Releases on Government Information Department Website

The source of information of the first 300 COVID-19 Deaths as reported in the press releases on DOGI is presented in Table 1.

Table 1: Source of Information of First 300 COVID-19 Deaths as Reported in the Press Releases on Department of Government Information Website

Source of Information	Frequency	Percentage (%)
Director-General of Health Services (DGHS)	264	97.41
Chief epidemiologist	4	1.47
Secretary Health	2	0.73
Acting - DGHS	1	0.36
Total	271	100.0

For the large majority (264, 97.41%) of the deaths, the Director General of Health Services (DGHS) was stated as the source of information. The age distribution of the first 300 COVID-19 deaths by decile is shown in Figure 3.

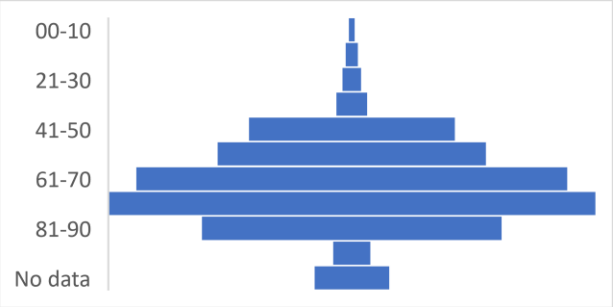


Figure 2: Distribution of Age by Deciles of First 300 COVID-19 Deaths as Reported in Press Releases on the Department of Government Information Website

As per Figure 3, it is evident that the largest number of deaths are reported from the 71 – 80 age decile. With decreasing age, the reported number of deaths decreased in a step-wise manner up to the 41- 50 age decile. However, beyond that, the number of deaths steeply decreased, with only one being reported in the 0 – 10 age decile. An almost equal number of deaths were reported in the 51-60 and 81 – 90 age deciles. The distribution of the age by three age categories are shown in Table 2.

Table 2 : Distribution of Age by Three Categories of First 300 COVID-19 Deaths as Reported in Press Releases on the Government Information Department Website

Age Category	Frequency	Percentage (%)
Less than 15	1	0.37
15 - 60	79	29.15
Above 60	191	70.48
Total	271	100.00

The majority of the persons who died were over 60 (n = 191, 70.48%). Around 29% of those who died were in the age group of 15 – 60. Only one person had died in the age category less than 15 years. The distribution of gender of the respondents of the deaths is shown in Figure 4.

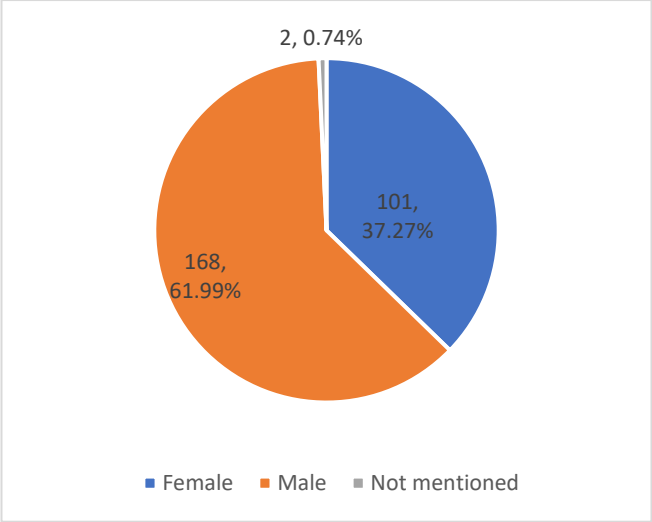


Figure 3 : Distribution of Gender by of First 300 COVID-19 Deaths as Reported in Press Releases on the Government Information Department Website by Three Categories

Most of the persons who died from COVID-19 were males, n = 168, 61.99%. The distribution of first 300 COVID-19 deaths by Regional Director of Health Services (RDHS) area is shown in Table 4 and Figure 4.

Table 3: Distribution of First 300 COVID-19 Deaths as Reported in Press Releases on the Government Information Department Website by Regional Director of Health Services (RDHS) Area

RDHS Area	Frequency	Percentage (%)
Colombo	165	60.89
Kalutara	31	11.44
Gampaha	20	7.38
Ratnapura	9	3.32
Kurunegala	6	2.21
Kandy	5	1.85
Matale	4	1.48
Batticaloa	3	1.11
Galle	2	0.74
Kegalle	2	0.74
Matara	2	0.74
Nuwara Eliya	2	0.74
Puttalam	2	0.74
Ampara	1	0.37
Polonnaruwa	1	0.37
Vavuniya	1	0.37
Anuradhapura	0	0.00
Badulla	0	0.00
Hambantota	0	0.00
Jaffna	0	0.00
Kilinochchi	0	0.00
Moneragala	0	0.00
Mullaitivu	0	0.00
Trincomalee	0	0.00
Kalmunai	0	0.00
Mannar	0	0.00
Not identified	15	5.54
Total	271	100.00

NB: RDHS areas are equivalent to administrative districts, except for Ampara district being divided into Ampara and Kalmunai RDHS areas.

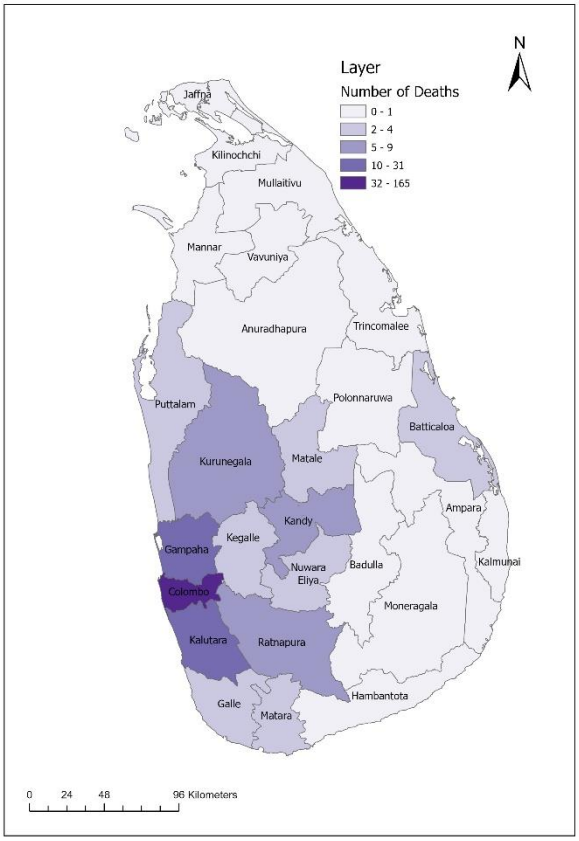


Figure 4 : Distribution of First 300 COVID-19 Deaths as Reported in Press Releases on the Government Information Department Website by RDHS Area

Most of the persons who died were from the Colombo RDHS area (n = 165, 60.88%), followed by Kalutara (n = 31, 11.43%) and Gampaha (n = 20, 7.38%) RDHS areas.

Table 4: Distribution of First 300 COVID-19 Deaths as Reported in Press Releases on the Government Information Department Website by Place of Death

Place of Death	Frequency	Percentage (%)
While receiving treatment	177	65.31
At residence	54	19.92
On admission death	34	12.54
Not mentioned	5	1.84
Under quarantine	1	0.36
Total	271	100.0

Most of the deaths (n=177, 65.31%) have occurred while the patient was taking treatment in a hospital. Around 20.0% (n = 54) of the deaths have occurred at the patient's residence. Thirty-four (12.54%) of the persons were dead on admission to a hospital. Only one person (0.36%) had died while being under quarantine. The distribution of comorbidities among the first 300 COVID-19 deaths is given in Table 5.

The most common comorbidity reported among the persons who died of COVID-19 was hypertension (n = 24, 8.86%). The next highest comorbidity was diabetes, n = 24, 8.86%. Heart disease, renal disease, and lung disease were present as comorbidities in around 5.0% of the persons who died of COVID-19.

Table 5: Distribution of Comorbidities among the First 300 COVID-19 Deaths as Reported in the Press Releases on the Government Information Department Website

Comorbidity	Yes		No		Total	
	Frequency	%	Frequency	%	Frequency	%
Diabetes	22	8.12	249	91.88	**271**	**100**
Hypertension	24	8.86	247	91.14	**271**	**100**
Heart Disease	15	5.54	256	94.46	**271**	**100**
Renal Disease	14	5.17	257	94.83	**271**	**100**
Lung Disease	14	5.17	257	94.83	**271**	**100**
Cancer	10	3.69	261	96.31	**271**	**100**
Cancer	10	3.69	261	96.31	**271**	**100**
Chronic diseases (Unspecified)	7	2.58	264	97.42	**271**	**100**
Stroke	7	2.58	264	97.42	**271**	**100**
Liver Disease	2	0.74	269	99.26	**271**	**100**
Hyperlipidemia	1	0.37	270	99.63	**271**	**100**

Table 6 and Figure 6 summarizes the number of comorbidities reported among the first 300 COVID-19 deaths, as per the press releases.

Table 6 : : Distribution of Number of Comorbidities Factors Reported among the First 300 COVID-19 Deaths as Reported in the Press Releases on Government Information Department Website

No. of Comorbidities	Frequency	%
None	198	66.0
One	77	25.7
Two	19	6.3
Three	6	2.0
Total	300	100

Among the deaths reported, not a single risk factor was mentioned in the majority (198, 66.0%). A single risk factor was reported in 25.7% (n = 77) among the first 300 deaths. Two or three risk factors were found in 6.3% (n = 19) and 2.0% of the reports of the deaths respectively.

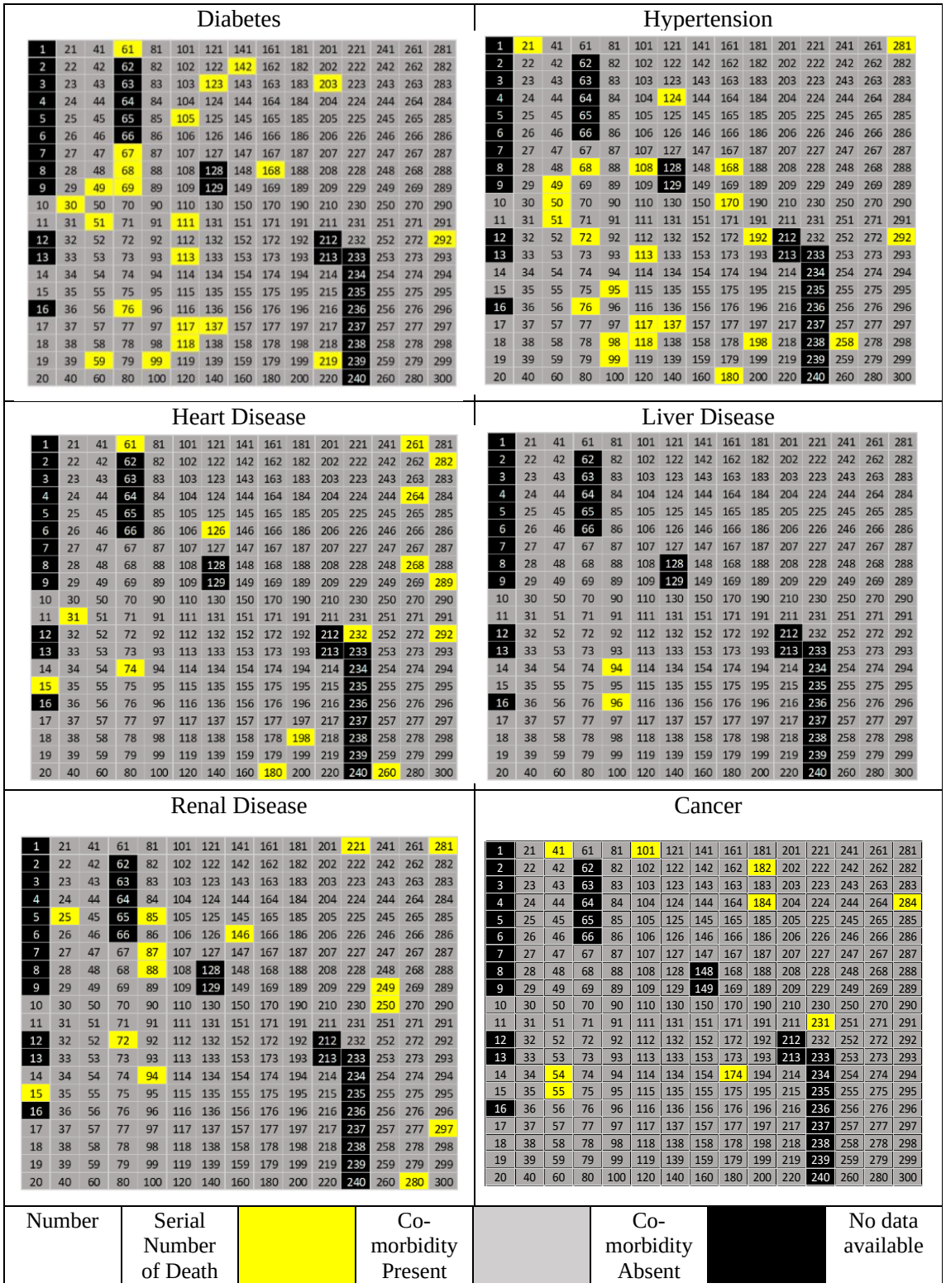


Figure 6: Distribution of Comorbidities among the First 300 COVID-19 Deaths as Reported in the Press Releases on Government Information Department Website

Discussion

Analysis of press releases to understand the mortality associated with COVID-19 is a novel approach that characterizes this desk review. Information about over 90% of deaths among the first 300 being available online is a strength of the risk communication strategy adopted by the government of Sri Lanka. The availability of press releases on COVID-19 deaths has improved drastically following the first 20 deaths except for few small chunks of missing data. Such missing data could be due to failures to upload press releases, breaches of the chain of communication from the notification of death to the publication of press releases, or actual lack of data about the person who died.

In addition, it is interesting to note that as time passed by, the press releases on COVID-19 deaths started to get formalized and structured. Thus, with time, only an essential, pre-determined set of information was provided.

It is interesting to note that an official from the health sector has been quoted as the source of the first 300 COVID-19 deaths. For example, DGHS has been the source of information in 97.4% of the deaths, as stated in the press releases. Quoting health authorities as the source probably reflects their perceived legitimacy. Further, it should be noted that most of the deaths were reported while being treated in a hospital, n = 177, 65.31%.

The distribution of age of the deaths shows that 70.48% of the deaths for which information was available came from the above 60 age group. This finding is compatible with other studies of mortality of COVID-19 deaths from elsewhere. In a descriptive exploratory analysis conducted by the Centers for Disease Control, China (CDC, China) involving all diagnosed cases of Covid-19 cases in the country until February 2020, age of 60 years or more elicited the highest risk for mortality (OR=18.816,95% CI=7.1997-41.551) (Caramelo, Ferreira, and Oliveiros 2020). A similar finding has been found by the analysis of the weekly deaths occurring from 15.05.2021 to 21.05.2021 period by the Epidemiology unit, which reported a 76% of the CVODI-19 deaths belonging to the over sixty age group (Epidemiology Unit 2021b).

Over sixty percent of the deaths were reported to be among males, as per the current study results. This is similar to the results from the study mentioned above from CDC, China, where males had 1.8 times the risk of dying from Covid-19 compared to females (OR=1.851, 95% CI=1.599-2.127). In contrast, a case fatality rate of 3.3% among women was observed in India compared to 2.9 % among men (Dehingia and Raj 2021). Similar findings were elicited in few other countries like Nepal, Vietnam, and Slovenia as well. Although there was sufficient evidence to attribute male sex to increased mortality like behavioral risk factors including smoking and alcohol, this revelation has baffled many researchers. They have assumed that differences in case identification by sex and country's health profile might have contributed to the female predominance (Dehingia and Raj 2021).

When considering the geographic distribution of the deaths as reported in the press releases, most of the persons who died were from the Colombo RDHS area (n = 165, 60.88%), followed by Kalutara (n = 31, 11.43%) and Gampaha (n = 20, 7.38%) RDHS areas. When comparing the geographical distribution of deaths, Colombo (374, 33%), Gampaha (149, 13%), and Kalutara (151, 13%) remained the highest deaths with reported deaths in the country even almost after one year as per the weekly analysis of deaths by the Epidemiology Unit for the period of 15.05.2021 to 21.05.2021 (Epidemiology Unit 2021b). However, the drop of death share could be explained by spill over into the other areas. Geographical distribution of COVID-19 deaths could provide a way of communicating the risk to the vulnerable communities regarding the progress of the disease.

When analyzing the information in the press releases of the first 300 COVID-19 deaths, the most common comorbidity reported was hypertension (n = 24, 8.86%). This finding is similar to the results of an analysis of 26 victims who died of COVID-19 in Berlin, where arterial hypertension was the comorbidity associated with the highest number of victims (n=17, 65.4%) (Elezkurtaj et al. 2021).

The next highest comorbidity was diabetes, n = 24, 8.86%. Heart disease, renal disease, and lung disease were present as comorbidities in around 5.0% of the

persons who died of COVID-19. In the above study in Berlin, chronic heart disease was identified in 34.6% of the persons who died following the review of their medical records (Elezkurtaj et al. 2021). Further, a history of cardiovascular disease was associated with 12.8 times (OR=12.83,95% CI=10.27-15.87) while the chronic respiratory disease was associated with 7.8 times (OR=7.79, 95% CI=1.59-2.17) risk of mortality compared to those who have not got such history in Wuhan China) (Caramelo et al. 2020).

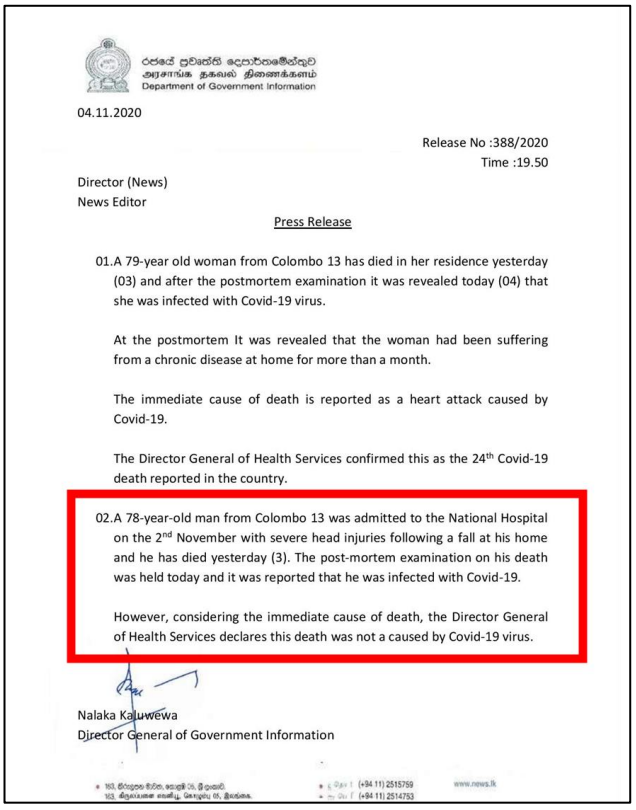
Largely comparable percentages of comorbidities were seen in the weekly analysis of COVID-19 deaths by the Epidemiology Unit for 15.05.2021 to 21.05.2021 (Epidemiology Unit 2021b). The highest morbidity reported was diabetes (n = 523, 46%), hypertension (n=488, 43%), and heart disease (n = 202, n = 18%). However, the top three comorbidities remain the same, indicating the similarities of the COVID-19 deaths covered by these two data sets.

Press releases on COVID-19 deaths could be used as a means of communicating risk to the public, especially to those with comorbidities, to take extreme precautions for not contracting the disease. It was probably intended that highlighting the comorbidities of those who died would prompt those with similar comorbidities and their family and friends to take extra precautions in the prevention of the disease.

In contrast, highlighting the comorbidities of the diseased could be seen as waving off the liability from the government for the deaths. Thus, this would probably have contributed to some degree of victim-blaming. "The deaths occurred because they had other comorbidities, so they are responsible for their deaths; the government is not responsible for that." It is not possible with the limited evidence we have gathered from the current study to reject or accept the above narrative. However, it is pretty clear that such a narrative, if used, would have contributed to victim blaming and stigmatization of those who contracted the disease.

Contrary to the popular narrative, it is clear that out of the first 300 individuals who succumbed to COVID-19, most did not have any comorbidities. For example, 66.0% of the deaths did not report any risk factor, while only one risk factor was reported on 25.7% of the deaths.

In addition, the classification of deaths as COVID-19 seems to have been a challenging task. For example, a person who died following a home accident was initially declared a COVID-19 death since postmortem testing yielded a positive test. Subsequently, this death has been removed from the list of COVID-19 deaths (Refer Figure 7).



Department of Government Information

04.11.2020

Release No :388/2020
Time :19.50

Director (News)
News Editor

Press Release

01.A 79-year old woman from Colombo 13 has died in her residence yesterday (03) and after the postmortem examination it was revealed today (04) that she was infected with Covid-19 virus.

At the postmortem It was revealed that the woman had been suffering from a chronic disease at home for more than a month.

The immediate cause of death is reported as a heart attack caused by Covid-19.

The Director General of Health Services confirmed this as the 24th Covid-19 death reported in the country.

02.A 78-year-old man from Colombo 13 was admitted to the National Hospital on the 2nd November with severe head injuries following a fall at his home and he has died yesterday (3). The post-mortem examination on his death was held today and it was reported that he was infected with Covid-19.

However, considering the immediate cause of death, the Director General of Health Services declares this death was not a caused by Covid-19 virus.

Nalaka Kaluwewa
Director General of Government Information

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www.news.lk

Figure 7: Press Release of Clarification of Cause of Death not as COVID-19

Nevertheless, these finding based on the analysis of the information extracted from press releases should be interpreted with care. Firstly, the findings are based on the publicly available data as press releases on the DOGI website. The completeness of the data set was only 90%. In addition, the data on the press releases were not cross-checked with subsequent detailed information obtained by the Epidemiology Unit. Further, such information would have changed following the issue of the press release.

Conclusion and Recommendations:

In summary, the findings of this "Post Mortem" of the press releases of the first 300 COVID-19 deaths provide some valuable insights into the pattern of mortality associated with this pandemic. The approach adapted by communicating facts about COVID-19 deaths by written press releases by the Sri Lanka government appears to be a best practice that could be used in providing information about COVID-19 deaths. In addition, the approach of post mortem of press releases could be used as an innovative and complementary tool to obtain a quick and rough idea about the mortality trends and the COVID-19 pandemic. Hence, analysis of press releases on COVID-19 deaths through future studies and their comparison over time is recommended as a means of keeping track of the morbidity patterns amidst the pandemic.

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