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IMPLEMENTATION OF SEATBELT WEARING CIRCULAR AND SEATBELT WEARING OBSERVATION IN PUTRAJAYA

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ABSTRACT

Chief Secretary to the Government of Malaysia, has issued a circular letter in December 2020 to inform government servant about the implementation of seatbelt campaign while using a government vehicle especially higher government officer. The objective of this study is to observe seatbelt wearing circular towards seatbelt wearing rate among government servants in Putrajaya; and identifying ministry's action towards seatbelt wearing circular. This study was conducted through quantitative design using observation and survey approach. Roadside observations were done in two phases which was before the distribution and after the distribution of the circular. The observations were conducted at five randomly selected locations in Putrajaya, Malaysia to observe vehicle occupants. Surveys were done with selected ministries in Putrajaya to identify the ministries action towards the implementation of the circular. Overall, seatbelt wearing rates for all passengers increases from pre-observation compared to post observation. The increase in wearing rate was statistically significant as indicated by the Odd Ratio value (95% CI) of 11.39 (8.30,15.63) for driver, 1.82 (1.45, 2.28) for front passenger, and 2.74 (1.85, 4.07) for rear passenger. Results from the surveys with the ministries staffs indicated that the circular had been distributed to all officers and planning to have training in the future to give awareness to all government servants in the ministry. The implementation of this circular along with continuous advocacy are among the important efforts that need to be implemented to increase the use of seatbelts among government servants.

Keywords: *Seatbelt circular, seatbelt wearing, car occupant safety, passive safety*

INTRODUCTION

Every year, the Malaysian Institute of Road Safety Research (MIROS) monitors the level of seatbelt wearing in vehicles, especially during the festive seasons in Malaysia. Through the monitoring, it was found that the usage rate of rear seatbelt is still at a very low level and alarming even though it has been enforced for more than 10 years. In contrast to the use of seatbelts for drivers, after coming into force in 1975, the percentage of seatbelt wearing among private cars was believed to have increased, although no studies have been done to date to confirm it (MOHAMED, 2011). Although legislation and regulations are important, it was not sufficient to maximize seatbelt use and must be accompanied by sustained education and enforcement. Highly publicized enforcement programs have proven a worthy technique for increasing seatbelt use (William and Well, 2004). This is proven through a study conducted by

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a team from MIROS on the effectiveness of enhanced enforcement programs (*OPS Bersepadu*). According to Norlen et. al 2010, it has been found that after 2 weeks, the *Operasi Bersepadu* (OPS) significantly increased seatbelt wearing among front passengers and the driver. In Occupational Safety and Health Act 1994 (OSHA), Section 15 (1) stated that it should be the duty of every employer and every self-employed person to ensure, so far as is practicable, the safety, health, and welfare of all his employees at work. OSHA is being implemented in where the management is responsible for ensuring their staff and employee to follow personal protective equipment (PPE) procedure (OSHA 1994).

In December 2020, Chief Secretary to the Government of Malaysia issued a circular to improvise the seatbelt wearing rate among government servants as an additional ruling to seatbelt law. This Circular Letter is intended to inform about the implementation of seatbelt campaign while riding a government vehicle among all government servants, especially among higher level government officers (Jabatan Perdana Menteri, 2020). Since the circular has been issued, it is recommended that the management level of government officers participate and take great responsibility in monitoring the implementation of the circular, similar to OSHA 1994. With regards to that, a survey was done to identify the actions taken by the ministries against the circular letter. The first objective is to identify the effect of seatbelt wearing circular towards seatbelt wearing rate among government servants in Putrajaya (pre versus post), to compare seatbelt wearing rates between private and official cars and to identify the ministry's action towards seatbelt wearing circular.

KERAJAAN MALAYSIA

SURAT PEKELILING AM BILANGAN 3 TAHUN 2020

KEMPEN PEMAKAIAN TALI PINGGANG KELEDAR
SEMASA MENAIKI KENDERAAN MILIK KERAJAAN
DALAM KALANGAN PEGAWAI-PEGAWAI KERAJAAN

Figure 1. Seatbelt Wearing Circular issued by the Chief Secretary to the Government of Malaysia. (Jabatan Perdana Menteri, 2020)

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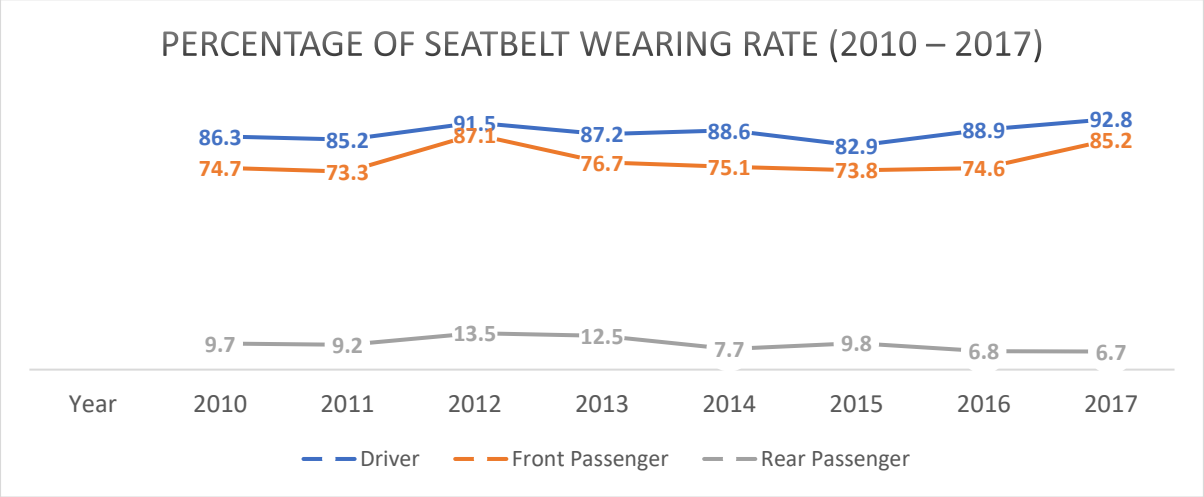

Figure 2. Percentage of Seatbelt Wearing Rate by Type of Occupants during OPS 2010 – 2017. (MIROS Research Report: MRR 309)

METHODOLOGY

This study was conducted through quantitative design through the observation and survey approach. The data collection was divided into two methods. The first method is roadside observation, while the second method is survey with the related officer in selected ministries in Putrajaya. To evaluate the effectiveness of the seatbelt wearing circular, roadside observations were done in two phases: before the distribution of the circular (15th until 26th March 2021) and after the distribution of the circular (18th until 25th October 2021). The seatbelt wearing circular was distributed to all ministries on 26th March 2021. To observe vehicle occupants, the observations were conducted at five randomly selected locations in Putrajaya, as shown in Table 1. During data collection, 2 trained officers will be on the side of the road, each of them will collect data on a different road direction. They need to wear a safety vest to ensure their safety while performing their duties.

Table 1
Data Collection Point of Observation.

No.	Data Collection Point
1	Lebuh Perdana Timur, Precint 1
2	Lingkaran Gemilang Satu, Precint 4
3	Jalan P9, Precint 9
4	Persiaran Perdana, Precint 2
5	Lebuh Setia, Precint 4

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Criteria for site inclusion were slowing traffic and a safe position for viewing traffic at the closest distance. Criteria for the selection of observation site includes a safe position for personnel to perform the observation as well as based on slow traffic area, adjacent to junction, traffic light or roundabouts which provide ample time for the personnel to observe the vehicle occupants. The instrument used to collect seatbelt wearing data is using a form. The form used contains information on the type of vehicle, type of use (private or official) and wearing status for each passenger in the vehicle. For the survey part, a survey questions were developed, and the question were asked to the target respondent using either google meet medium and a phone interview was conducted with the related department of a randomly selected ministry to identify their action of feedback regarding the circular letter. Seatbelt wearing data were key-in in Microsoft Excel after observation. Data cleaning was done by a researcher using IBM SPSS 21 statistical software for the data analysis. Descriptive analyses were performed to obtain the distribution and profiling of the data. To determine the effectiveness of the circular implementation, data before and after the implementation of the circular were analysed using cross-tabulation matrix analyses. The relative risk and 95 % confidence interval were computed and taken as the results for assessing the effectiveness of the circular.

RESULTS AND DISCUSSIONS

This section discusses the results and discussion of the study. This section is divided into three subsections: Compliance with rear seatbelt wearing before and after the implementation of the circular, a comparison of seatbelt wearing rate between private and official cars and the ministry's action plan towards seatbelt wearing circular.

Compliance of Rear Seatbelt Wearing Before and After the Implementation of the Circular

A total of 6273 drivers, 1737 front passengers and 561 rear passengers were observed for their seatbelt wearing status throughout the study period as shown in Table 2.

Table 2
Sample Size based on the observation phase and occupant type.

Type of occupants	Phases of observation		
	Before	After	TOTAL
Driver	2902	3371	6273
Front passenger	795	942	1737
Rear passenger	222	339	561
Total	3919	4652	8571

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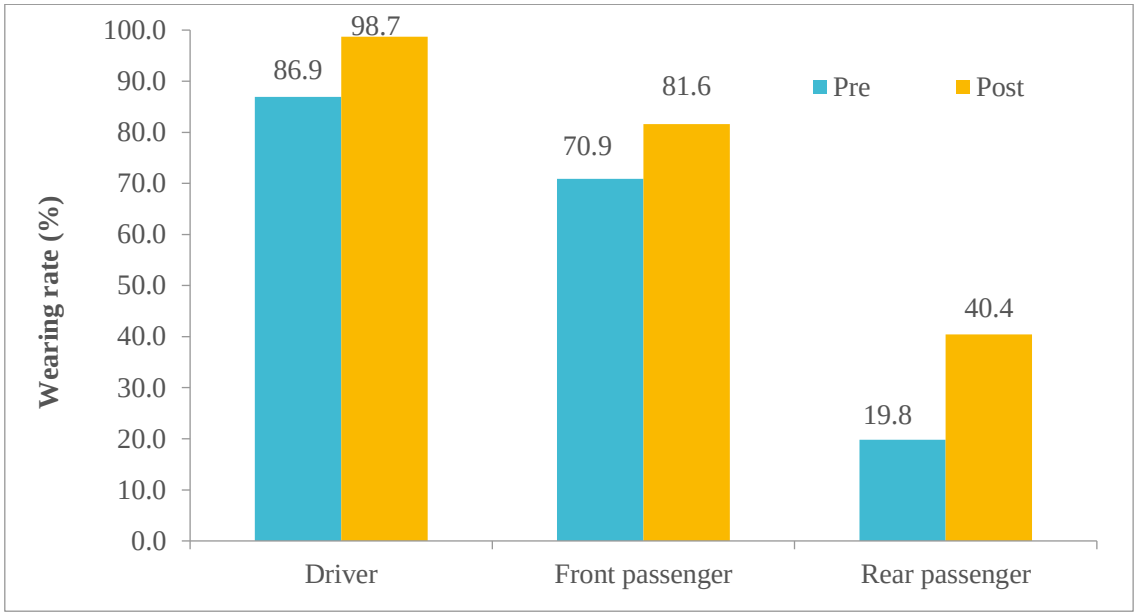

Figure 3. Overall percentage of seatbelt wearing rate among vehicle occupants by observation period (Pre vs. Post).

Table 3
Likelihood of vehicle occupant's seatbelt wearing before compared to after circular implementation.

Occupant	Wearing Status	Before		After		OR (95% CI)
		N	%	N	%	
Driver	Belted	2552	86.9	3327	98.7	11.39* (8.30,15.63)
	Unbelted	380	13.1	44	1.3	
Front passenger	Belted	564	70.9	769	81.6	1.82* (1.45, 2.28)
	Unbelted	231	29.1	173	18.3	
Rear passenger	Belted	44	19.8	137	40.4	2.74* (1.85, 4.07)
	Unbelted	178	80.2	202	59.6	

Note: * = Significant

Figure 3 shows the overall seatbelt wearing rate during pre and post observation. Overall, the seatbelt wearing rate for drivers increases from 86.9% during pre-observation to 98.7% during post-observation. The increase in wearing rate was statistically significant as indicated by the Odd Ratio (95% CI) of 11.393 (8.303,15.633), as shown in Table 3. On the other hand, the wearing rate for front passengers increases from 70.9% during pre-observation to 81.6% during

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post-observation. Furthermore, this finding is statistically significant, as indicated by the Odd Ratio (95% CI) of 1.821 (1.454, 2.280). The seatbelt wearing rate for the rear passenger during pre-observation was 19.8% and it was increased to 40.4% and this finding is statistically significant, 2.744 (1.849, 4.072). In this research, seatbelt wearing data for private vehicles and official vehicles must be obtained for both types of vehicles. To identify official government vehicles, if the vehicle has a government coat of arms or organization logo, it is considered a government official vehicle. The need to take official vehicle data is because in the circular, it is stated that officers riding in official government vehicles are required to wear seatbelts.

Table 4
Likelihood of seatbelt wearing rate by the phases of observation and types of vehicles.

Occupant	Types of Vehicles	Wearing Status	Before		After		OR (95% CI)
			N	%	N	%	
Driver	private	Belted	2402	87.3	2995	98.9	13.15* (9.16,18.87)
		Unbelted	348	12.7	33	1.1	
	official	Belted	120	78.9	332	96.8	8.05* (3.93, 16.47)
		Unbelted	32	21.1	11	3.2	
Front passenger	private	Belted	522	72.0	636	81.0	1.66* (1.30,2.11)
		Unbelted	203	28.0	149	19.0	
	official	Belted	42	60.0	133	84.7	3.69* (1.94, 7.05)
		Unbelted	28	40.0	24	15.3	
Rear passenger	private	Belted	39	19.2	119	40.15	2.81* (1.85,4.28)
		Unbelted	164	80.8	178	59.9	
	official	Belted	5	26.3	18	42.9	2.10 (0.64, 6.90)
		Unbelted	14	73.7	24	57.1	

Note: * = Significant

Table 4 shows the result of seatbelt wearing rate by the phases of observation and types of vehicles. When comparing the seatbelt wearing rate by types of vehicles, it was found that drivers of private vehicles are 13.149 times more likely to wear a seatbelt after circular implementation rather than before implementation. On the other hand, drivers of the official vehicles are 8.048 times more likely to wear a seatbelt after the circular implementation rather than before the implementation. Front passenger also shows a significant association when the value of relative risk shows that they are 1.660 and 3.694 times more likely to wear a seatbelt after the circular both for private and official vehicle, respectively. Moreover, the rear passenger of private cars shows a significant association with a relative risk value of 2.811.

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Ministry's Action Plan Towards Seatbelt Wearing Circular

These circular aims to inform government servants about the implementation of a seatbelt campaign while using a government-owned vehicle, especially higher government officers. This is also be seen as an effort to increase awareness and the rate of seatbelt wearing among government servants and will indirectly be a role model to the whole community. Several strategies and methods can be implemented based on this circular. The first is continuous and extensive implementation of enforcement activities by the Road Transport Department (JPJ) and the Royal Malaysian Police (PDRM), including providing advice and education. Based on the circular, the second strategy is the implementation of advocacy activities/programs and awareness campaigns. The campaign can be organised through various communication mediums, including social media, where it is the most accessible and most appropriate medium used. Social media, especially Instagram can effectively communicate the importance of using a seatbelt to high school adolescents and young adults. In contrast with traditional mass media or institutional websites, Instagram allows users to generate their own content. (Zhang et al., 2020) The third strategy is the enforcement of seatbelt law among government servants while using government vehicles is used as one of the intervention measures to reduce the risk of serious injuries and deaths due to road accidents.

With reference to the circular, there are 2 methods through this strategy; The involvement of government servants, especially officers at the higher management level of the government are very important to be a role model to the public. Second method; This specific administrative circular should also be enforced to fulfil this desire. Through the specific circular of the administration, the message of the implementation of this campaign can be extended to all ministries and government agencies, thereby establishing an appropriate continuous monitoring mechanism. As for implementation, there are 3 implementation methods that need to be carried out; The first is the involvement of all government servants, especially the higher government officials, who will be a role model to the public. Accordingly, this seatbelt wearing circular is applicable to all drivers and passengers while using in government vehicles. Secondly, every driver of a government vehicle is accountable for ensuring all passengers, including rear passengers, are wearing a seatbelt before starting on a journey. All heads of departments need to include messages related to seatbelt wearing campaigns and the appropriate use of CRS in new year's messages or monthly gatherings on an ongoing basis. In this study, a survey with several ministries were conducted by researchers regarding the implementation of this circular. The Ministry of Transport Malaysia distributed this circular in March 2021. The survey was conducted in December 2021, 8 months after it was distributed. The table below summarises surveys that were held by the researcher.

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Table 5
Summary of surveys conducted with the selected ministries on seatbelt circular.

	Ministry A	Ministry B	Ministry C	Ministry D	Ministry E
1) The ministry had received a circular letter.	√	√	√	√	√
2) The ministry distributed this circular to all staff.	√	√	√	√	√
3) The ministry distributed this circular letter to all agencies under the ministry.	√	√	√	√	√
4) The ministry had organized training related to seatbelt/road safety in 2021.	√	X	X	√	X
5) Messages related to the wearing of seat belts to be included in the monthly messages/assembly.	X	X	X	X	X
6) Ministry appoints a special officer responsible for implementing this circular.	√	√	√	√	√
7) Message regarding the wearing of seatbelts for all passengers been delivered to all drivers in the ministry?	√	√	√	√	√
8) Message regarding the wearing of seatbelts been delivered to all higher officers in the ministry?	√	√	√	√	√
9) The ministry has a training/talk plan to be conducted in the future.	√	√	√	√	√
10) The implementation of this circular was announced through the ministry's social media.	X	X	X	X	X

Based on Table 5, all ministries received the circular letter in March 2021. The ministries have distributed this circular letter to all staff via email and memo to the head of the division. They have also distributed this circular to all agencies under the ministry. Most ministries do not conduct much training due to the movement control order, however, some ministries have conducted training related to driving procedures to drivers. Messages related to the wearing of seatbelts are also not included in the monthly message / assembly because the monthly

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assembly is held online and only focuses on other more important matters. The ministry has also appointed a special officer responsible for the implementation of this circular and the division involved in the Management Services Division. The ministry also has training plans in place for the future to support this campaign effort. A message regarding the wearing of seat belts for all passengers was also conveyed to drivers at the ministry. A message regarding the wearing of seatbelts was also conveyed to the higher level officers in the ministry. Apart from that, the implementation of this campaign was not announced through the ministry's social media.

CONCLUSION

Based on the findings, the wearing rate is higher after the implementation of seatbelt circular for the driver, front passenger, and rear passengers. When comparing the types of vehicles and seatbelt wearing rate among different types of occupants by the phases of observation, driver of private vehicle, driver of official vehicle, front passenger of private vehicle, front passenger of official vehicle and rear passenger of private vehicle showed a significant odds ratio. This result is supported by the study by Norlen et al. in 2010 that if the enforcement activities increase, the compliance rate for seatbelt wearing would also increase and start to decline when the enforcement activities decrease over time. In this study, the implementation of seatbelts wearing circular has increased the use of seatbelts among government servants. Therefore, it is important to publicise more on the enforcement activities. Besides, enforcement along with education and advocacy focus on seatbelt wearing should be increased and more visible to the government servant and public to improve seatbelt wearing rates in Malaysia. The ministry's efforts regarding this circular can also be said to be still in its early stages. There is still a lot of work to be done to achieve 100% seatbelt wearing. Higher level government officers must also set a good example to the public by always wearing seatbelts while using government vehicles. The implementation of this circular and ongoing advocacy is among the important elements in the government's efforts to increase the use of seat belts among government servants.

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