IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 18, Issue 6 Ser. 3 (June. 2019), PP 27-29
www.iosrjournals.org

Pattern of Helmet Use among the Motorcycle Drivers and Pillion Riders in an Area of Kolkata

Dr. Kaushik Mitra[1], Dr. Sanjib Bandyopadhyay[2]
[1](Assistant Professor, Department of Community Medicine, Burdwan Medical College, West Bengal)
[2](Assistant Professor, Department of Community Medicine, Calcutta National Medical College, West Bengal)
Corresponding Author: Dr. SanjibBandyopadhyay

Abstract: *Worldwide each year, 1.24 million deathsand 20 to 50 million injuries are caused by road traffic crashes.[1] The burden of road traffic injuries (RTIs) is increasingand, unless addressed, is projected to become the fifth-leadingcause of death by the year 2030.[2] Motorcycle is the most vulnerable vehicle used in India.[3,4] Motorcycle helmet laws are there in India, though implementation is very poor.A cross-sectional observational survey was undertaken in Bidhannagar (Salt Lake), located in Kolkata metropolitan area in North 24 District of West Bengal. Motorcycle helmet use and non-use data was collected by the teams in four locations near traffic light signals and on main streets in Salt Lake, one of which is the gateway to Sector V (IT Sector). Data were collected for one hour period four times a date. Data were analyzed using Spreadsheet MS Excel. Out of 4191 motorcycle drivers, 3713 (88.59%) were males and 478 (11.41%) were females. Morning Office time (MO) has the highest number of motorcycles on road. There were 1782 pillion riders. Out of 4191 motorcycle drivers, 603 (14.39%) were without helmets.Lack of helmet use was mostly seen in early morning hours.Awareness campaigns and programmes are to be arranged by the local authorities so as to increase the use of helmets among the motorcycle riders. Stress may also be given, so that the children also wear helmets.*

Key Words: *Helmet, Motorcycle, Pillion Riders*

Date of Submission: 22-05-2019 Date of acceptance: 07-06-2019

I. Introduction

Worldwide each year, 1.24 million deathsand 20 to 50 million injuries are caused by road traffic crashes.[1] The burden of road traffic injuries (RTIs) is increasingand, unless addressed, is projected to become the fifth-leadingcause of death by the year 2030.[2] Motorcycle is the most vulnerable vehicle used in India.[3,4] Motorcycle helmet laws are there in India, though implementation is very poor. There are only a few studies published in India related to proportion of helmet use among motorcyclists.[3]The objectives of this study were to assess the proportion of helmet use by the motorcycle drivers and pillion riders in Kolkata, India.

II. Material And Methods

A cross-sectional observational survey was undertaken in Bidhannagar (Salt Lake), located in Kolkata metropolitan area in North 24 District of West Bengal. Motorcycle helmet use and non-use data was collected by the teams in four locations near traffic light signals and on main streets in Salt Lake, one of which is the gateway to Sector V (IT Sector). To capture diurnal variations in motorcycle helmet use, data were collected across an one-hour early morning (6:00-7:00 am), one hour in office time(09:00-10:00 am),one hour in office return time(05:00-06:00 pm) and one-hour in night (08:00-09:00 pm) period twice a week in April 2019. Driver and passenger helmet use and non-use information were recorded for drivers and passengers of every motorcycle entering in all four locations. Motorcycle operators were coded as drivers while all other motorcycle riders were coded as pillion riders. Genderwas recorded for both the drivers and passengers. It was also noted if the passenger is apparently adult or child.

Data were recorded with the help of a checklist and later analyzed using spread sheet Microsoft Excel 2016.

III. Results

In the tables, one-hour early morning (6:00-7:00 am) data were represented by EM, one hour in office time(09:00-10:00 am) were dented by MO, one hour in office return time(05:00-06:00 pm) were denoted by EO and one-hour in night (08:00-09:00 pm) were denoted by EN.

Table 1: Distribution of number of motorcycles according to the days and gender of drivers

No. of Motorcycles					
Days	**EM**	**MO**	**EO**	**EN**	**Total**
D1	33	210	167	70	**480**
D2	43	197	170	56	**466**
D3	49	184	174	59	**466**
D4	36	201	151	49	**437**
D5	40	204	178	69	**491**
D6	32	176	169	66	**443**
D7	34	198	173	73	**478**
D8	37	185	175	71	**468**
D9	36	193	165	68	**462**
Total Male	322	1519	1351	521	**3713**
Total Female	18	229	171	60	**478**
Total	**340**	**1748**	**1522**	**581**	**4191**

So, it can be seen from Table 1, that out of 4191 motorcycle drivers, 3713 (88.59%) were males and 478 (11.41%) were females. Morning Office time (MO) has the highest number of motorcycles on road.

Table 2: Distribution of number of pillion riders according to the days and gender of them

No. of Pillion Riders					
	EM	**MO**	**EO**	**EN**	**Total**
D1	14	72	67	48	**201**
D2	11	84	78	41	**214**
D3	10	111	69	37	**227**
D4	14	83	62	27	**186**
D5	12	98	53	35	**198**
D6	18	59	59	39	**175**
D7	11	73	62	50	**196**
D8	13	64	51	43	**171**
D9	12	91	70	41	**214**
Total Male	81	490	367	183	**1121**
Total Female	34	245	204	178	**661**
Total	**115**	**735**	**571**	**361**	**1782**

It can be seen from Table 2, that out of 1782 pillion riders, 3713 (88.59%) were males and 478 (11.41%) were females.

Table 3: Proportion of motorcycle drivers without helmet according to gender and time of the day

	Time of the day									
	EM		**MO**		**EO**		**EN**		**Total**	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Male	135	41.93	132	8.69	116	8.59	161	30.92	544	14.65
Female	4	22.22	21	9.17	8	4.68	26	43.33	59	12.34
Total	139	40.88	153	8.75	124	8.15	187	32.19	603	14.39

Early Morning (EM) was the time, when most (40.88%) of the motorcyclists were without helmets. The same held true for both the genders. However, out of 4191 motorcycle drivers, 603 (14.39%) were without helmets.

Table 4: Proportion of pillion riders without helmet according to gender and time of the day

	Time of the day									
	EM		**MO**		**EO**		**EN**		**Total**	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Male	39	48.15	187	38.16	155	42.24	104	56.83	485	43.26
Female	13	38.24	62	25.31	45	22.06	89	50	209	31.62
Total	52	45.21	249	33.88	200	35.03	193	53.46	694	38.61

Similarly, as per Table 4, 45.21 % of the pillion riders were without helmet in early morning hours. In total, 38.61% of pillion riders were without helmets.
Out of 310 children (apparently looking) as pillion riders, 136 (43.87%) were without helmets.

IV. Discussion

As per report of World Health Organization in 2013, half of the world's road traffic deaths occur among motorcyclists (23 per cent), pedestrians (22 per cent) and cyclists (5 per cent).[5,6] Wearing a helmet is considered the most effective way of reducing head injuries and fatalities resulting from motorcycle crashes. Wearing a helmet has been shown to decrease the risk and severity of death by almost 40 per cent, and to substantially reduce the costs of health care related to motorcycle accidents. (WHO, 2006). All countries are facing the problem of a rapidly rising number of people being injured or facing death while riding two wheelers (WHO, 2006). Increasing helmet use in our country, especially in big cities, is thus an important way of improving road safety.[7]

Early morning hours have the highest number of motorcycle riders and pillion riders without helmets. This may be attributed to fewer number of traffic police on roads, who will get hold of them and impose fine. Some people travel to nearby markets or schools and being a short distance, they are reluctant to helmet wear.

However, it can be seen that females are more prone to wear helmets than males, in both being motorcycle driver or pillion rider.

"Safe Drive Save Life" initiative has already been taken by the State Government so as to decrease the number of road traffic accidents. However, there is still lack of awareness among the people regarding helmet use.

V. Conclusion

Awareness campaigns and programmes are to be arranged by the local authorities so as to increase the use of helmets among the motorcycle riders. Stress may also be given, so that the children also wear helmets.

References

[1]. World Health Organization. Global status report on road safety 2013: supporting a decade of action. Geneva: WHO, 2013.
[2]. World Health Organization. Global status report on road safety: time for action. Geneva: WHO, 2009.
[3]. Wadhwaniya S, Gupta S, Tetali S, Josyula LK, Gururaj G, Hyder AA. The validity of self-reported helmet use among motorcyclists in India. WHO South-East Asia J Public Health 2015; 4(1): 38–44
[4]. Olsen CS, Thomas AM, Singleton M, et al. Motorcycle helmet effectiveness in reducing head, face and brain injuries by state and helmet law. *InjEpidemiol*. ;3(1):8. doi:10.1186/s40621-016-0072-9
[5]. Mathur AK, Gupta A, Bandhu A. Baseline Study on Pattern of Helmet Use in the State of Rajasthan, India. Journal of Health Management:19(3) 1–18
[6]. World Health Organization. Helmet use saves lives. Retrieved 12 April 2019, from http://www.who.int/mediacentre/news/releases/2006/pr44/en/
[7]. World Health Organization. *Global status report on road safety, supporting a decade of action*. Geneva, Switzerland: Retrieved 12th April 2019

Dr. SanjibBandyopadhyay. "Pattern of Helmet Use among The Motorcycle Drivers and Pillion Riders in an Area of Kolkata." IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 18, no. 6, 2019, pp 27-29.