

# **COMMUNITY RESIDENCY PROGRAMME**

**2007**

**PHASE IIIA 2004/2009**

## **PATTERN OF INJURIES AMONG THE VILLAGERS IN DISTRICTS OF MALAYSIA**

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# INTRODUCTION (1)

🕒 Injury can cause pain, physiological dysfunction, and economic loss apart from mental sufferings.

🕒 Basically, injury can be resulted from accidents or violent behaviour.

1. Accidents: motor vehicle or road traffic accidents, fall, poisoning, and burn or scald.
2. Violence behaviour : self inflicted or abused by others.

🕒 In the United States, more than 10 million people were injured at home severely enough to warrant an emergency department (ED) visit

# INTRODUCTION (2)

🕒 In 1999, motor vehicle traffic crashes resulted in 40,965 deaths and were the leading cause of death in the United States among people ages 1 to 34

🕒 In Malaysia, injury - the 3<sup>rd</sup> leading cause of hospital admission & 5<sup>th</sup> leading cause of death in government hospital 2003

🕒 Road traffic accidents are a recognized dominant cause of injury and death among teenagers world wide and in Malaysia

🕒 Injury can be prevented thus effective intervention strategies should be done in reducing the incidence

# OBJECTIVES

## **General:**

- To study the pattern of injuries among villagers in 5 districts of Malaysia for the past one year.

## **Specific:**

1. To describe the socio-demographic pattern of respondents in the study.
2. To determine the number of respondents with history of injury within one year period, prior to the study.
3. To analyze the types and effect of injuries in the 5 studied districts.
4. To see association between the most severe type of injury and the most severe effect of injury.
5. To see association between the types of injuries and occupational status.
6. To see association between the types of injuries and housing conditions.
7. To recommend the strategies for prevention of injury in rural areas of Malaysia.

# RESULTS

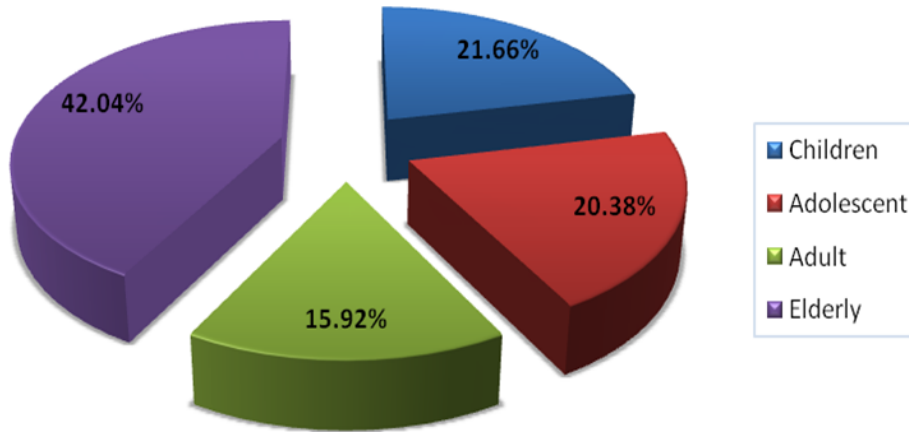
<b>SOCIO-DEMOGRAPHIC</b>		<b>Frequency</b>
<b>Gender (n=2,867)</b>	<b>Male</b>	1,281
	<b>Female</b>	1,586
<b>Age Group (n=2,788)</b>	<b>Children</b>	568
	<b>Adolescent</b>	577
	<b>Adult</b>	804
	<b>Elderly</b>	839
<b>Occupational Sector (n=2,867)</b>	<b>Manufacturing</b>	59
	<b>Agriculture</b>	395
	<b>Factories/Processing</b>	79
	<b>Building/Construction</b>	53
	<b>Commerce</b>	72
	<b>Service &amp; Finance</b>	283
	<b>Mining</b>	2
	<b>Transportation</b>	29
	<b>Communication</b>	6
	<b>Not Working</b>	1,889

***Table 1.1 : Socio-demographic distribution of all respondents***

<b>HISTORY OF FALL</b>		<b>YES</b>	<b>NO</b>	<b>P Value</b>
<b>Gender (n=2,867)</b>	<b>Male (1,281)</b>	66	1,215	0.310
	<b>Female (1,586)</b>	94	1,492	
<b>Age Group (n=2,788)</b>	<b>Children (568)</b>	34	534	0.003
	<b>Adolescent (577)</b>	32	545	
	<b>Adult (804)</b>	25	779	
	<b>Elderly (839)</b>	66	773	
<b>Occupational Sector (n=2,867)</b>	<b>Manufacturing (59)</b>	5	54	0.257
	<b>Agriculture (395)</b>	17	378	
	<b>Factories/Processing (79)</b>	4	75	
	<b>Building/Construction (53)</b>	4	49	
	<b>Commerce (72)</b>	4	68	
	<b>Service &amp; Finance (283)</b>	13	270	
	<b>Mining (2)</b>	0	2	
	<b>Transportation (29)</b>	0	29	
	<b>Communication (6)</b>	0	6	
	<b>Not Working (1,889)</b>	113	1,776	

**Table 1.2 : Socio-demographic distribution of respondents involved in fall**

### Percentage Of Fall Against Age Group In All 5 Stations (n=157)

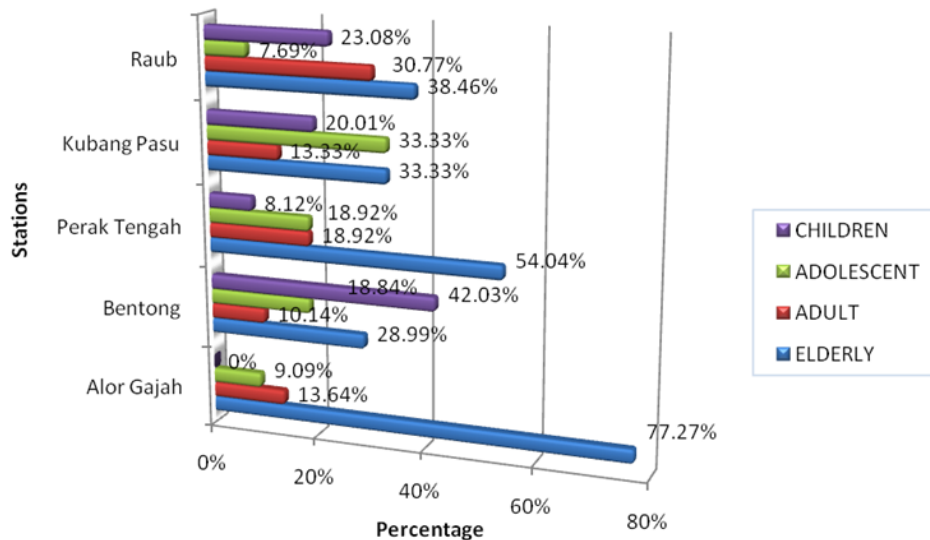


\* Elderly is the largest age group involved in fall, followed by children, adolescent and adult.

**Figure 1.1:**

**Overall percentages of fall against age group of all 5 stations in Malaysia.**

### Percentage Of Fall Against Age Group By Stations



\* Elderly is the largest age group involved in fall in all stations except for Bentong which mainly involved children

**Figure 1.2:**

**Percentages of fall against age groups of 5 stations In Malaysia.**

<b>HISTORY OF ROAD TRAFFIC ACCIDENT</b>		<b>YES</b>	<b>NO</b>	<b>P Value</b>
<b>Gender (n=2,867)</b>	<b>Male (1,281)</b>	75	1,206	0.061
	<b>Female (1,586)</b>	49	1,537	
<b>Age Group (n=2,788)</b>	<b>Children (568)</b>	8	560	0.852
	<b>Adolescent (577)</b>	44	533	
	<b>Adult (804)</b>	37	767	
	<b>Elderly (839)</b>	35	804	
<b>Occupational Sector (n=2,867)</b>	<b>Manufacturing (59)</b>	2	57	0.199
	<b>Agriculture (395)</b>	23	372	
	<b>Factories/Processing (79)</b>	4	75	
	<b>Building/Construction (53)</b>	5	48	
	<b>Commerce (72)</b>	4	68	
	<b>Service &amp; Finance (283)</b>	23	260	
	<b>Mining (2)</b>	0	2	
	<b>Transportation (29)</b>	2	27	
	<b>Communication (6)</b>	0	6	
	<b>Not Working (1,889)</b>	61	1,828	

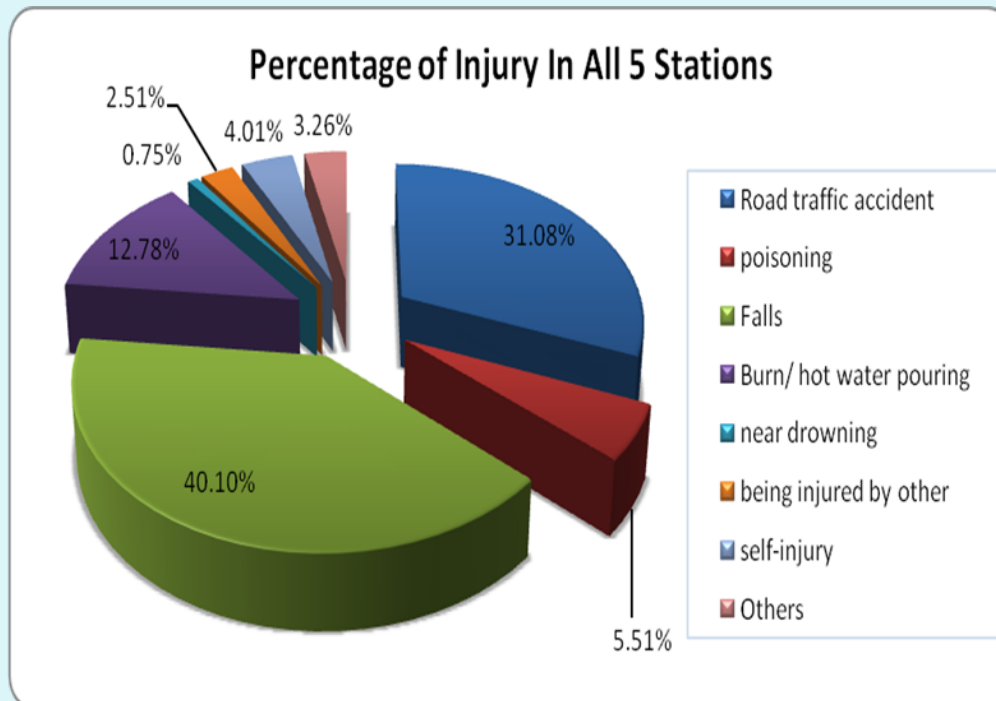
***Table 1.3: Socio-demographic distribution of respondents involved in road traffic accident***

<b>STATIONS</b>	<b>YES</b>	<b>NO</b>	<b>TOTAL</b>
<b>ALOR GAJAH</b>	46	292	338
<b>BENTONG</b>	113	499	612
<b>PERAK TENGAH</b>	123	360	483
<b>KUBANG PASU</b>	49	518	567
<b>RAUB</b>	34	833	867
<b>TOTAL</b>	365	2,502	<b>2,867</b>

*Table 2.1: The number of people involved in injury within a year at the 5 stations*

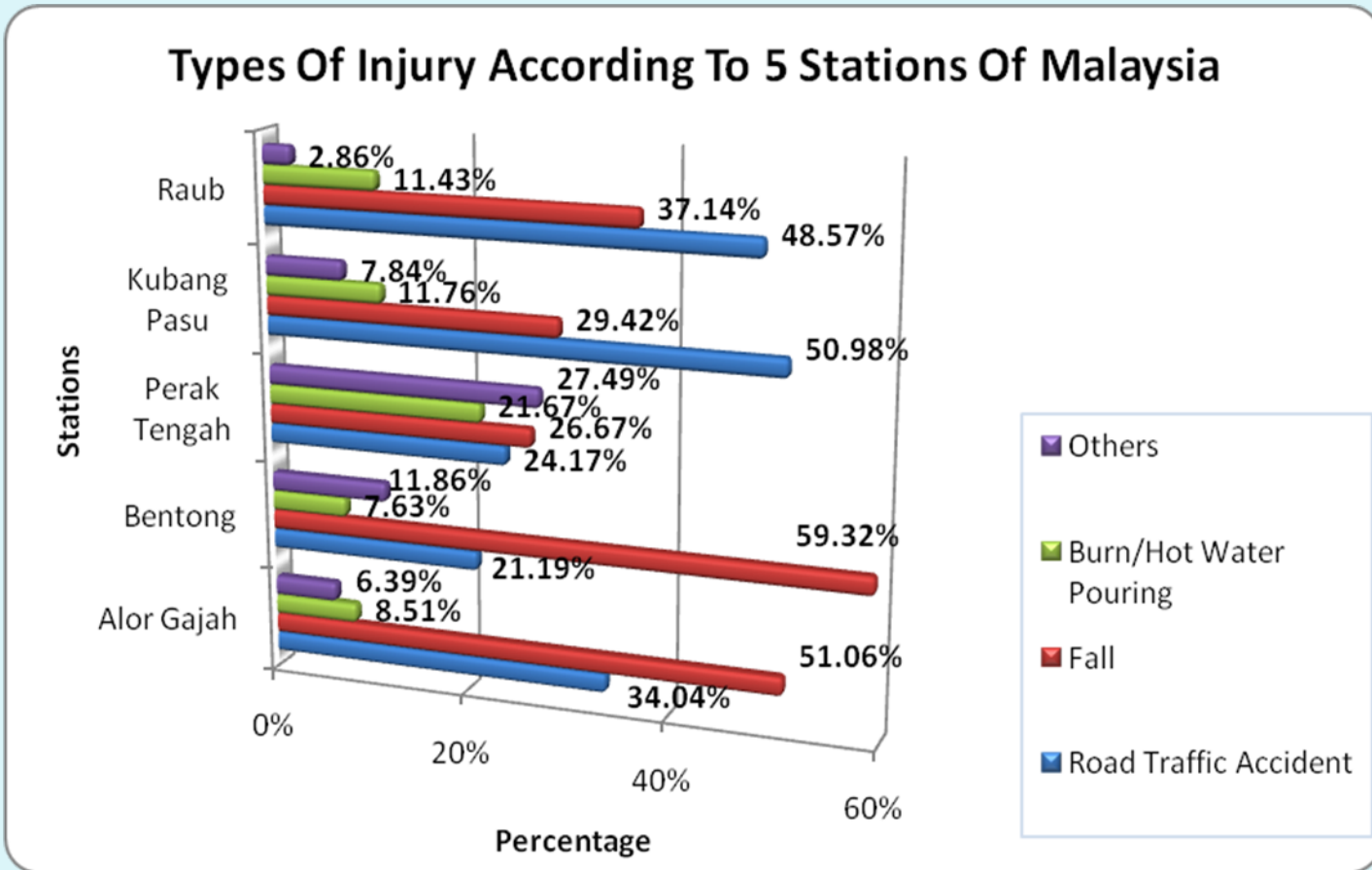
STATIONS	FALL	ROAD TRAFIC ACCIDENT	BURN/HOT WATER POURING	OTHERS	TOTAL
ALOR GAJAH	24	16	4	2	46
BENTONG	70	25	9	9	113
PERAK TENGAH	38	40	28	17	123
KUBANG PASU	15	26	6	2	49
RAUB	13	17	4	0	34
<b>TOTAL</b>	<b>160</b>	<b>124</b>	<b>51</b>	<b>30</b>	<b>365</b>

*Table 3.1.1: The number of injury according to types of injury in 5 stations and total*



\* The most common injury is Fall, followed by Road Traffic Accident and Burn.

*Figure 3.1.1: Percentage of injury for all 5 stations in Malaysia*



**Figure 3.1.2: Types of injuries according to 5 station in Malaysia**

- \* The Most Common Injury for Raub & Kubang Pasu Is Road Traffic Accident
- \* The Most Common Injury for Perak Tengah, Bentong and Alor Gajah Is Fall

<b>STATIONS</b>	<b>BRUISES</b>	<b>SWELLING</b>	<b>OPEN WOUND</b>	<b>OTHERS</b>	<b>TOTAL</b>
<b>ALOR GAJAH</b>	22.99%	17.24%	19.54%	40.23%	100% (n=87)
<b>BENTONG</b>	27.60%	21.27%	28.51%	22.62%	100% (n=221)
<b>PERAK TENGAH</b>	20.35%	22.11%	21.75%	35.79%	100% (n=285)
<b>KUBANG PASU</b>	23.60%	19.10%	30.34%	26.96%	100% (n=89)
<b>RAUB</b>	22.95%	9.84%	29.51%	37.70%	100% (n=61)

***Table 3.2.1: Percentages of the effects of injury according to the 5 stations***

\* The most common effects of injury in Bentong, Kubang Pasu and Raub is Open Wound Injury

\* The most common effects of injury in Alor Gajah is Bruises meanwhile swelling in Perak Tengah.

\* Other effects of injury included Scald, Bone Fracture, Head & Neck Injury, and Backache.

<b>TYPES INJURY</b>	<b>OPEN WOUND</b>	<b>SWELLING</b>	<b>BRUISES</b>	<b>OTHERS</b>	<b>TOTAL</b>
<b>FALL</b>	78 (25.49%)	66 (21.57%)	74 (24.18%)	88 (28.76%)	306 (100%)
<b>ROAD TRAFFIC ACCIDENT</b>	64 (22.46%)	52 (18.25%)	77 (27.02%)	92 (32.27%)	285 (100%)
<b>BURN/ HOT WATER POURING</b>	26 (22.61%)	26 (22.61%)	25 (21.74%)	38 (33.04%)	115 (100%)
<b>OTHERS</b>	22 (20.18%)	17 (15.60%)	32 (29.36%)	38 (34.86%)	109 (100%)
<b>TOTAL</b>	190	161	208	256	<b>815</b>

***Table 4.1 Most severe injury against most severe effects of injury***

- \* The most common effect of Fall is Open Wound Injury, followed by Bruises and Swelling
- \* The most common effect of Road Traffic Accident is Bruises, followed by Open Wound and Swelling
- \* The most common effect of Burn/Hot Water Pouring is Open Wound and Swelling, followed by Bruises.
- \* Other types of Injury Included Near Drowning, Self-injured, Injured By Others, and Poisoning.
- \* Other effects of injury included Scald, Bone Fracture, Head & Neck Injury, and Backache.

<b>SECTOR INJURY</b>	<b>AGRICULTURE</b>	<b>SERVICE &amp; FINANCE</b>	<b>NOT WORKING</b>	<b>OTHERS</b>	<b>TOTAL</b>
<b>FALL</b>	17 (10.63%)	13 (8.13%)	113 (70.62%)	17 (10.62%)	160 (100%)
<b>ROAD TRAFFIC ACCIDENT</b>	24 (19.35%)	24 (19.35%)	58 (46.77%)	18 (14.53%)	124 (100%)
<b>BURN/HOT WATER POURING</b>	10 (19.61%)	7 (13.73%)	28 (54.90%)	6 (11.76%)	51 (100%)
<b>OTHERS</b>	7 (10.94%)	6 (9.38%)	40 (62.50%)	11 (17.18%)	64 (100%)
<b>TOTAL</b>	58	50	239	52	<b>399</b>

***Table 5.1 Association Between Types Of Injuries And Occupational Sectors***

\* All the Injuries are common among Not Working Respondent.

\* Others occupational sector included Mining, Transportation, Communication. Manufacturing, Factories, Construction, and Commerce.

	<b>HISTORY OF FALL</b>	<b>NO HISTORY OF FALL</b>	<b>P Value</b>
<b>SINGLE STOREY</b>	48	981	0.212
<b>MULTIPLE STOREY</b>	19	313	

***Table 6.1: Association between types of injuries and housing condition***

\* From the table above we found out that there was no association between fall and housing condition with P value of more than 0.05.

# DISCUSSIONS

## 1. Fall is more common among the elderly:

- Physical & psychological aging process
- Co-morbid conditions: hypertension, diabetes mellitus:
  - sedentary life styles
  - socio- economic status
  - dietary habit<sup>2</sup>

## 2. Road traffic accident is highest in adolescent:

- Young age to attain driving license<sup>6,7</sup>
- No safety precautions  
eg: seatbelts- driving short distances, forgetfulness,  
in hurry or even 'not in the habit'<sup>3,5</sup>  
helmets - non- standard helmets nor improper  
secured helmets<sup>2</sup>

# DISCUSSIONS(2)

## 3. Association between fall and occupation

- Fall is more frequent in respondents working in agriculture and service & finance sector due to:
  - nature of work place
  - low visibility due to early working hours
  - traveling to work place

## 4. Association between road traffic accident and occupation

- this is more common among those who were not working since:
  - negligence and carelessness behavior towards road safety e.g.: refusal of using helmets, overloaded of pillion and speeding on the road.
  - some do not have license, hence they are not well educated about the road safety.

# RECOMMENDATIONS

1. Safe home environment
2. Education
3. Role of local authorities:
  - ❑ Safe & well maintained playgrounds
  - ❑ Campaigns- school, public
  - ❑ Improve road conditions eg. Street lights
  - ❑ Law enforcement
  - ❑ Survey
  - ❑ Stringent car purchasing & driving license application

# CONCLUSION

1. The 2 most common injuries are fall and road traffic accident.
2. Elderly age group has more history of fall for the past 1 year.
3. Adult and adolescent are the 2 major categories who engaged in road traffic accident.

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