

## CHAPTER 3

### DATA SOURCES AND METHODOLOGY

This chapter begins with a description of the survey on “Battered Women” by a team from General Hospital, Kuala Lumpur. This includes the survey coverage, sampling design, sample selection, methods of data collection and questionnaire design and the methods used in the analysis of data.

#### 3.1 DATA SOURCES

Research on violence against women has exploded in the past 20 years, however many gaps exist in understanding violence against women. For instance few empirical data exist on the relationship between forms of violence, such as victimization in childhood and subsequent victimization. Finally, study on the consequences of violence against women, including their injury rates and use of medical services, are lacking. Therefore, the main objective of the survey was to collect detailed information pertaining to the contributing factors such as involvement in crime, usage of drugs, consumption of alcohol and the implications of victimization, the extent and nature of injury they sustained, the use of medical services and the assistance from various agencies .

The data come from the Battered Women Survey conducted by a group of medical officers in General Hospital Kuala Lumpur (GHKL). This survey was

conducted from January 2000 to June 2000. It was a six months study. All victims seeking the medical services from GHKL were automatically selected as a respondent. All battered victims were women. A total of 415 battered women were interviewed and a host of open-ended and close ended questions were used to collect detailed information. The information collected includes victim's and the batterer's socio-demographic background, marital history, type of assault, duration and frequency of assault, type of injury, location, the use of alcohol and drugs, criminal background, assistance from police and social worker.

However, five women refused to participate in the survey. Therefore 410 cases were used in the analysis. These five women were frightened to enclose any information and they were not forced to participate in the survey. Victims were selected as respondents upon obtaining their consent.

### **3.2 DATA ANALYSIS**

This study is aimed at examining the prevalence of these battered women, their injury rates and the consequences of these victims and the batterers involved. Data were analyzed using Statistical Package for Social Science (SPSS). Analysis of data begins with frequency and percentage tabulations on the socio-demographic of both the battered women and the batterer. Exploratory analysis of the distribution of age at first time of battering women was also conducted.

Descriptive measures such as mean, median, mode, standard deviation, range and skewness were also used in this analysis. Kolmogorov-Smirnov test was conducted to test normality of age at first time battering. Further analysis was done on mean age at first time battering against several independent variables such as ethnic groups, religious affiliation, education, occupation and income.

In addition, graphical display using box-plots to show the difference in median, first quartile, third quartile and the minimum and maximum value of all the categories in a quantitative variable. Measures of association were calculated between nominal level independent and dependent variables and chi-square statistics were used to test statistically significant differences between groups such as marital status, education level and ethnic group. Only differences with a p-value of less or equal 0.05 were considered significant in this study.

The Mantel-Haenszel method was used to analyze dichotomous variables. This includes a two-by-two table of counts and primary focus on the odds-ratio. The odds-ratio is a better valid measure of risk association compared to relative risk. Mantel-Haenszel method assumes the null hypothesis that the odds-ratio is 1, which is equivalent to the statement that the probabilities of the outcomes in the two exposure groups are the same. A two-by-two table is constructed as shown in Figure 3.1.

Figure 3.1: Two-by-two table

		Exposure	
		E1	E2
Outcome	D1	a	b
	D2	c	d

The outcome and the determinant (exposure) are designated by the symbols D and E, respectively, so 'a' and 'b' are the numbers of 'exposed' and 'unexposed' subjects who experience the outcome, 'c' and 'd' are the numbers who do not, respectively. Therefore, the estimated odds in the exposed group is thus  $a/c$ . Similarly, an estimate of the odds in the unexposed group is  $b/d$ , and the estimated odds ratio is thus

$$\text{OR} = ad/bc$$

A 95% confidence interval is used to measure the precision with which a population parameter can be determined from this study. The narrower the confidence interval, the greater the precision. The formula used is shown below:

$$\ln(\text{OR}) \pm 1.96 \sqrt{(1/a+1/b+1/c+1/d)}$$

Testing the null hypothesis that the population odds ratio in a two-by-two table is 1 is done using the Mantel-Haenszel test. The formula is as shown below:

$$\chi^2_{\text{MH}} = (n-1)(ad-bc)^2 / (a+c)(b+d)(a+b)(c+d)$$

The outcome that is analyzed are the first time battering and the socio-demographic variables against the exposure that involves various variables such as involvement in crime, usage of drugs and alcohol, location, general condition and time of occurrence. Variable "1" was coded for those incident happened in the victim's home and code "0" for those incidents happened elsewhere. Similar codes were used for the relationship between victim and the batterer in which "1" for husbands and "0" for other intimate relationship such as boyfriend, ex-husband or fiancée. Value "1" was used for those incidents happened from 6 morning till 6 evening while code "0" was used for incidents happened from 6 evening till 6 morning.

In addition, a few other dichotomous variables were also used. The following shows how these variables were coded “1” for yes and “0” for no.

<u>Variable</u>	<u>“1”</u>	<u>“0”</u>
First time being battered	Yes	No
Threatened to kill victim	Yes	No
Used a weapon to attack	Yes	No
Batterer used drugs/alcohol	Yes	No
Victim used drugs/alcohol	Yes	No
Reported to police	Yes	No
Admitted in hospital	Yes	No
Have any children	Yes	No
Seek social worker’s help	Yes	No