# CHAPTER 4

## FINDINGS AND DISCUSSION

A descriptive study was conducted to describe body image among postoperative patients with hand injuries in Huashan Hospital Shanghai City, China. This chapter presented demographic data of the subjects, findings, and discussion of the findings relevant to the research objective.

### Findings

The 61 postoperative patients with hand injuries who met inclusion criteria were selected to be subjects of this study. The questionnaire consisted of three parts was used to collect data. The period of data collection was from November 1997 to February 1998. Descriptive statistical method was used for data analysis. The results were presented in tables coupled with analytical discussion divided into three following parts:

1. Demographic data;
2. Medical record;
3. The level of body image among postoperative

patients with hand injuries.

**Part 1. Demographic data**

The recruited sample was 61 postoperative male patients with hand injuries in which 75.4% was inpatients and 24.6% was outpatients. These 61 subjects were divided into groups of age, marital status, role in family, religious, educational level, occupation, average monthly income, and way of hospital payment. The information analysis was presented in tables 1 to 4 as follows:

**Table 1** Frequency and percentage of subjects grouped by age and marital status

| variable | frequency (N=61) | percentage (%) |
|---|---|---|
| **Age** (years) | | |
| 18-19 | 8 | 13.1 |
| 20-35 | 32 | 52.5 |
| 36-64 | 21 | 34.4 |
| **Marital status** | | |
| Married | 46 | 75.4 |
| Single | 15 | 24.6 |

From table 1, for age group, there were 32 subjects or 52.5 percent age ranged between 20-35 years. Eight subjects or 13.1 percent were in 18-19 years age group. Most of them, forty-six subjects or 75.4 percent, were married, and 15 subjects or 24.6 percent were single.

Table 2 Frequency and percentage of subjects grouped by role in family, religious, and educational level

| variable | frequency (N=61) | percentage (%) |
|---|---|---|
| **Role in family** | | |
| Husband | 6 | 9.8 |
| Son | 15 | 24.6 |
| Husband and son | 1 | 1.6 |
| Husband and father | 6 | 9.8 |
| Husband, father and son | 33 | 54.2 |
| **Religious** | | |
| Non-religious | 54 | 88.6 |
| Buddhist | 5 | 8.2 |
| Christian | 1 | 1.6 |
| Islam | 1 | 1.6 |
| **Educational level** | | |
| No education | 1 | 1.6 |
| Primary school | 6 | 9.8 |
| Middle school | 27 | 44.2 |
| Senior high school | 19 | 31.2 |
| University | 8 | 13.2 |

From table 2, for the role in family, 33 subjects or 54.2 percent had multiple roles in their families, namely, husband, father and son. Fifty-four subjects or 88.6 percent were non-religious. One subject or 1.6 percent was Christian and another one was Islam. For the educational level, twenty-seven subjects or 44.2 percent finished middle school education. Only one subject had no education.

**Table 3** Frequency and percentage of subjects grouped by occupation and average monthly income

| variable | frequency (N=61) | percentage (%) |
|---|---|---|
| **Occupation** | | |
| Farmer | 6 | 9.8 |
| Construction worker | 6 | 9.8 |
| Business person | 6 | 9.8 |
| Carpenter | 2 | 3.3 |
| Soldier | 5 | 8.2 |
| Factory worker | 2 | 36.1 |
| Student | 2 | 3.3 |
| Driver | 5 | 8.2 |
| Government office | 7 | 11.5 |
| **Average monthly income (Yuan)** | | |
| No income | 2 | 3.3 |
| 250 or less | 7 | 11.5 |
| 251-350 | 5 | 8.2 |
| 351-450 | 5 | 8.2 |
| 451-550 | 11 | 18.0 |
| 551-650 | 4 | 6.6 |
| 651-750 | 8 | 13.1 |
| 751-850 | 1 | 1.6 |
| 851 and more | 18 | 29.5 |

Table 3 showed 22 subjects or 36.1 percent were factory workers, and 2 equal subjects or 3.3 percent were carpenters and students. For the average monthly income, eighteen subjects or 29.5 percent were in the over 850 Yuan group. Only 2 subjects or 3.3 percent had no income.

**Table 4** Frequency and percentage of subjects grouped by way of hospital payment

| variable | frequency (N=61) | percentage (%) |
|---|---|---|
| **Way of hospital payment** | | |
| Total reimbursed or insurance | 34 | 55.7 |
| Total self paid | 23 | 37.7 |
| Partial reimbursed | 2 | 3.3 |
| Partially paid by family | 2 | 3.3 |

Table 4 showed 34 subjects or 55.7 percent received total reimbursement or insurance for hospital expenses. Two equal subjects or 3.3 percent received partial reimbursement and partially paid by family.

**Part II. Medical record**

Medical record was reviewed to collect the data about hand injury. The information was divided into groups of cause of injury, instrument causing injury, hand dominance, injured hand, injured fingers, nerve involved, diagnosis, duration of hand injury, and other major health problems. The information analysis was presented in tables 5 to 9.

**Table 5** Frequency and percentage of subjects grouped by cause of injury and instrument causing injury

| variable | frequency (N=61) | percentage (%) |
|---|---|---|
| **Cause of injury** | | |
| Work related accident | 32 | 52.5 |
| Traffic accident | 25 | 40.9 |
| Assault | 4 | 6.6 |
| **Instrument causing injury** | | |
| Machinery | 26 | 42.7 |
| Car crash | 25 | 41.0 |
| Knife | 6 | 9.8 |
| Glass | 2 | 3.3 |
| Glass bottle explosion | 1 | 1.6 |
| Gun shot | 1 | 1.6 |

From table 5, thirty-two subjects or 52.5 percent had work-related accident as the cause of injury. Four subjects or 6.6 percent were assault. For the instrument causing injury, twenty-six subjects or 42.7 percent was machinery and one subject or 1.6 percent was glass bottle explosion.

Table 6 Frequency and percentage of subjects grouped by Hand dominance, injured hand, and injured fingers

| variable | frequency (N=61) | percentage (%) |
|---|---|---|
| **Hand dominance** | | |
| Right | 58 | 95.1 |
| Left | 3 | 4.9 |
| **Injured hand** | | |
| Right | 33 | 54.1 |
| Left | 25 | 41.0 |
| Both | 3 | 4.9 |
| **Injured fingers** | | |
| Thumb | 3 | 4.9 |
| Index | 1 | 1.6 |
| Thumb and index | 5 | 8.2 |
| Thumb, index and middle | 1 | 1.6 |
| Index, middle, and ring | 3 | 4.9 |
| All five fingers | 2 | 3.3 |
| Five fingers dysfunction secondary to brachial plexus avulsion, tendon or other nerve injury | 46 | 75.5 |

Table 6 showed 58 subjects or 95.1 percent were right handed. Thirty-three subjects or 54.1 percent had right injured hand. Only 3 subjects or 4.9 percent suffered both hand injuries. Forty-six subjects or 75.5 percent injured all fingers secondary to one side of brachial plexus avulsion, tendon injury or other nerve injury. One subject or 1.6 percent had injury of the index and another one of the thumb, index and middle fingers.

Table 7 Frequency and percentage of subjects grouped by Nerve involved and diagnosis

| variable | frequency (N=61) | percentage (%) |
|---|---|---|
| **Nerve involved** | | |
| Brachial plexus | 33 | 54.1 |
| Brachial plexus and radial nerve | 1 | 1.6 |
| Median nerve | 2 | 3.3 |
| Median and radial nerve | 1 | 1.6 |
| Median and ulnar nerve | 4 | 6.6 |
| Radial nerve | 4 | 6.6 |
| Ulnar | 3 | 4.9 |
| No nerve injury | 13 | 21.3 |
| **Diagnosis** | | |
| Brachial plexus avulsion | 33 | 54.0 |
| Deglover laceration | 3 | 4.9 |
| Tendon injured | 1 | 1.6 |
| Wrist amputated | 2 | 3.3 |
| Median nerve injured | 2 | 3.3 |
| Radial nerve injured | 5 | 8.2 |
| Ulnar nerve injured | 2 | 3.3 |
| Median and radial nerve injured | 1 | 1.6 |
| Median and ulnar nerve injured | 4 | 6.6 |
| Thumb amputated | 4 | 6.6 |
| Others (finger fracture) | 4 | 6.6 |

From table 7, thirty-three subjects or 54.1 percent were brachial plexus nerve involved. Only one or 1.6 percent was brachial plexus and radial nerve and median and radial nerve involved equally. For the diagnosis, thirty-three subjects or 54.1 percent were brachial plexus avulsion. One subject or 1.6 percent was tendon injured and median and redial nerve injured equally.

**Table 8** Frequency and percentage of subjects grouped by duration of hand injury and the other major health problem

| variable | frequency (N=61) | percentage (%) |
|---|---|---|
| **Duration of hand injury (months)** | | |
| 6 or shorter | 42 | 68.9 |
| 7-12 | 5 | 8.2 |
| 13-18 | 5 | 8.2 |
| 19-24 | 3 | 4.9 |
| 25-30 | 2 | 3.3 |
| 31-36 | 1 | 1.6 |
| 37-42 | 0 | 0.0 |
| 43-48 | 1 | 1.6 |
| 49-54 | 2 | 3.3 |
| **Other major health problems** | | |
| Hypertension | 2 | 3.3 |
| Diabetes | 2 | 3.3 |
| None | 57 | 93.4 |

Table 8 showed forty-two subjects or 68.9 percent experienced hand injury less than 6 months. Only one subject or 1.6 percent experienced the injury between 31 to 36 months and 43-48 months equally. Fifty-seven subjects or 93.4 percent did not have any major health problem while two equal subjects or 3.3 percent had hypertension and diabetes.

**Table 9** Frequency and percentage of subjects grouped by times of hospitalization since this injured and numbers of operation from this injury

| variable | frequency (N=61) | percentage (%) |
|---|---|---|
| **Times of hospitalization since this injury** | | |
| once | 30 | 49.1 |
| twice | 21 | 34.4 |
| three times | 2 | 3.3 |
| four times | 2 | 3.3 |
| five times | 2 | 3.3 |
| six times | 2 | 3.3 |
| seven times | 2 | 3.3 |
| **Numbers of operation from this injury** | | |
| once | 29 | 47.5 |
| twice | 21 | 34.5 |
| three times | 1 | 1.6 |
| four times | 4 | 6.6 |
| six times | 1 | 1.6 |
| seven times | 4 | 6.6 |
| eight times | 1 | 1.6 |

Table 9 showed thirty subjects or 49.1 percent were hospitalized for only one time. Two subjects or 3.3 percent were hospitalized for three, four, five, six and seven times equally. For the number of operation, twenty-nine subjects or 47.5 percent received one operation. One equal subject underwent three times, six times and eight times of operation.

**Part III. The level of body image among postoperative patients with hand injuries**

To describe body image among the postoperative patients with hand injuries, the score of the body image was obtained from the subject's response. The descriptive analysis of body image scale was performed. The results were shown in tables 10 and 11.

**Table 10** Means, standard deviation, and range of total body image score for each domain

| variable | mean | SD | range |
|---|---|---|---|
| Total body image scale | 9.58 | 2.04 | 6.67-13.79 |
| PHA | 3.23 | .74 | 1.00- 4.83 |
| PHF | 2.55 | 1.14 | 1.00- 4.72 |
| POR | 3.91 | .57 | 1.70- 5.00 |

Note: PHA = perception of hand appearance
PHF = perception of hand function
POR = perception of other's reaction

Table 10 showed the mean of body image score for subjects was 9.58 with the SD score of 2.04, and range from 6.67 to 13.79. The mean of perception of hand appearance was 3.23 with the SD of .74 and range from 1.00 to 4.83. The mean of perception of hand function was 2.55 with the SD of 1.14 and range from 1.00 to 4.72. The mean of other's reaction was 3.91 with the SD of .57 and range from 1.70 to 5.00.

**Talbe 11** Levels of body image

| level | frequency (N=61) | percentage (%) |
|---|---|---|
| Low level | 33 | 54.06 |
| High level | 28 | 45.94 |

Table 11 showed 33 subjects or 54.06 percent had low score of body image and 28 subjects or 45.94 percent had high score of body image.

**Discussion**

In present study, the mean age of the subjects was 33.08 years ranging between 18 to 55, 52.5 percent of the subjects' age between 20 to 35 years old. This indicated the majority of subjects are young adulthood. This finding was similar to the reports of Bello and Mclntire (1995), Drench (1994), and Murray and Zentner (1993). They stated that during the twenties, the tasks include finding an occupation, looking for opposite sex as loved one, and establishing a new family. Also, in this age group, person

plays an important role in family as Table 2 showed 54.2% of the subjects played three roles in their families: husband, father, and son. All of them were expected to have responsibility at work, at home and in society (Murray & Zentner, 1993). Most of the subjects (75.4%) were married and the rest were single living with their parents. This finding supported the Chinese traditionally and culturally family relationship. In China, it is common phenomenon that persons stayed with their parents before marriage. After they grew up they should get marry especially for male. Traditionally, men have the responsibility to their families. They must have offsprings for their families. More than half of subjects (54.2%) showed their traditional important roles in families. They were not only husbands but also fathers and/or sons. Thus, they had the responsibility to their family members: wife, child and parents. They were the breadwinners for the families. For the religious, 88.6% of the subjects were non-religious, 5 subjects (8.2%) are Buddhists. This finding reflected one of the life styles in the Chinese culture. Nowadays, the young generation does not seem to believe in anything except themselves. They become more independent and practical in living their lives than other older persons do in old time. Nearly half of subjects

(44.2%) finished middle school education, 31.2% had senior high school education, and 13.2% of subjects received university level of education. This indicated that the general educational level of the subjects was at moderate level. In China, every person should finish a compulsory 9-year education, but shill in some areas, some persons do not complete this level for some reasons. For the occupation, one third of the subjects were factory worker. This indicated that these subjects' social status was not high. In this study, the average monthly income of the subjects showed various amounts. The lowest was no income, the highest was more than 850 Yuan. Two subjects were students so that they did not yet earn money. The 29.5 percent of subjects earned more than 850 Yuan, and less than 850 Yuan for the rest of the subjects. With different causes of hand injury, the way of hospital payment was differed. There were 55.7 percent of subjects paid the hospital fee with total reimbursement from the government/work agency or the insurance company, while 37.7% paid by themselves.

Most of the causes of injury was work-related accident (52.5%). The 42.7 percent of instruments causing injury were machinery tools. This finding was consistent with the result reported from other studies which found

74.2% trauma cases related to mechanical work (Jia, 1991). In this study, the majority of subjects (95.1%) were right-handed which the occurrence of injury showed 54.1% for the right, 41.0% for the left. This finding was not congruent with a study among 1,003 patients (Beaton, Williama, and Moseley, 1994), which found that injuries of the right hand were more common than those of the left hand in both left and right handed people. This may be explained by the cause of injury previously presented that 24.6% were a motor vehicle accidents and other traffic accidents. More than half of the subjects (54.1%) had injured nerve with brachial plexus involvement. They could not move their arms, hands and fingers. This implied that more than half of the subjects in this study experienced severe injury. The data from this study indicated that subjects experienced hand injury with duration ranging between 1 month to 54 months with the mean of 7.7 (SD=8.94). Forty-two subjects or 68.9 percent had injury less for than 6 months. This meant that most of the subjects lived with injured hand within a half year. Thirty subjects and 21 subjects in this study identified that they were hosiptalized once or twice, for the treatment of their injured hands. There were equal numbers of subjects (N=2) hospitalized for three, four,

five, six, seven times. Twenty-nine subjects received one time operation and equally one subject undergone for three, six, and eight times. This finding indicated that the majority of subjects had received one reconstructive hand surgery.

**The level of body image among postoperative patients with hand injuries**

The result of this study found that 33 subjects (54.06%) rated their body image at a low level compared to mean of the sample group (Table 11). Twenty-eight subjects (45.94%) rated their score at a high level compare to mean of the sample group. This meant that more than half of the hand injured patients had low body image. This finding indicated that they had negative feeling and attitude toward their hands postoperatively. This finding revealed that more than half of the subjects in this study also had a negative feeling and attitude toward their postoperative injured hand appearance, function, and others' reaction. They might experience some degrees of body image alteration. This finding supported Ship's study (1984, cited in Maher, Salmond and Pellino, 1994), which stated that psychological changes resulted from dealing with disfigurement, functional

changes and reactions of others can alter hand injured patient's body image. This finding was consistent with some research reports. As Horing and Kon (1996) delineated that hand intact appearance and well function serve the person's sense of self and his interactions with others. It has a great impact on the person's image when hand injury occurred. Ships (1984, cited in Maher et al., 1994) also described that the psychological changes resulted from dealing with disfigurement, functional changes and reactions of others can also alter a hand injured patients body image. This finding could be explained by the nature of young adulthood, as previously mentioned that more than half of the subjects were young adults. This finding was consistent with the study of Cash, Winstead and Janda (1986) in 30,000 peoples' body image, which found that men in their 20s were most concerned with their appearance. Since society places some values of person on physical attractiveness, prowess and functional abilities, disability would be expected to have negatively impact body image. The subjects in this age were at a turning point in their lives and might confront new demands, which seemed quite overwhelming. During this period of life, they would have a new role in society, they need to earn money by themselves. They would also be

searching for a girl friend and planning to start their own families. They concerned more about appearance, function and other's react. There were 28 subjects at the high level of body image that indicated those patients perceived their hand appearance, function, and others' reaction positively after receiving operation. This finding might be explained by the short period of duration of hand injury. As it was mentioned before there were 68.9 percent of subjects suffered injury within six months. The outcome from surgery enabled somewhat satisfying result when perform as early as possible after injury.

In this study, the subjects rated the domain of perception of others' reaction with the highest mean score followed by perception of hand appearance, and perception of hand function. It might be explained that the subjects of this study felt that they would have gained much support from others after the accident. This can explain by the Chinese cultural living style. Usually, there are strong intimate relationships among family members in China. When a person faces with some problems, such as suffering from injury or disease, his family members will try their best on providing him with variety of kind concern and support instead of leaving him. This makes him feel warm and

confident in living for the better future. During the data collection, almost all subjects stated that they can easily get support and help from others such as friends, neighbor, and work fellows, and especially from family members like parents, and spouse. The other reason might be that more than half of the subjects (52.5%) suffered hand injury during working time. The significant others always showed regretfully for them. This finding also be illustrated that the subjects did not have more concern about others' reaction. They seemed to be more worry about themselves. They might think that even though they are still alive after the accident but they need hand to accomplish their daily activity, to finish their developmental task. This finding was partially consistent with the study of body image disturbance among American young adults with cancer done by Bello and McIntire (1995). Their study result revealed that an illness might alter or influence the completion of the developmental tasks of young adulthood. In addition, most subjects experienced hand injury for less than 6 months. During these months they might spend much time seeking for treatment and that they concern more about their hand appearance and function than reaction from others.

The perception of hand function domain had the

lowest mean score that may indicate that subjects had negative feeling and attitude toward their postoperative hand function. They were uncertain about the result of treatment. This finding was consistent with Schwab and Harmelins' study (1968) among 124 medical illness patients which they reported males' body image scores were largely independent of illness-oriented attitudes and seemed to center on aspects of their lives associated with other functions. This finding was also consistent with the other study on perception of body image in subjects with multiple sclerosis (Sammonds & Cammermeyer, 1989) which found the subjects reporting dissatisfied with ability to work, and to write. The finding of this study was also consistent with Horing and Kon's opinion (1996) which they mentioned that when hand injury occurred, especially with loss of function and/or changing appearance of hand, it had great impact on the patient image. Another reason to explain about the lowest score of this domain may relate to their age. In this study, eight subjects or 13.1 percent were in 18-19 years age group. The majority of subjects' age ranged between 20 to 50. The data of marital status showed 46 subjects or 75.4 percent were married. They might have family or child that they had to look after. This finding might be illustrated by

Chinese culture or tradition. At present, many Chinese males would be expected to share daily living activity with their family or spouse. So with their hand injury, they might loss some degrees of hand function that led the subjects loss the ability to earn money and take care of the family or child. So these subjects concerned more about their hand function, thus the injury had great impact on their lives. This finding was supported by the nature of adulthood described by Murray and Zentner (1993), which they stated during the period of adulthood person have more responsibility for their family and society. As information derived from demographic data, subjects in this study played multiple roles in their families. During the age between 18 to 55 years, people normally have many development tasks to deal with. Some subjects needed to find occupation and search for appropriate person of opposite sex as loved one to establish new family. For married subjects, they had family or children who need them to share daily details of life and assuming responsibility for offspring. In China, the working age normally started at 18 years old. For male, the retired age was either 55 or 60 years. All subjects in this study were in the working age range. They might get promotion if they perform effective work. Hand injury

probably stopped them from returning to former work. Without well hand function they could not finish their work efficiently. So, some of them felt that they need to change jobs. Hand function is more important for them in their daily living and work.

When comparing the result to previous study, many studies about body image were conducted in other populations. Different diseases might cause various consequences resulting in different perception of body image. Another difference existed between the previous studies and the present one was cultural differences. The previous studies were conducted in western countries, while this study was done in China, an eastern country. Difference of cultural background may result in difference of body image.

**Additional findings**

Chinese people are stick-in-the-mud people, many of them unwilling to or even afraid of expressing their exact feeling directly. Therefore, sample in this study might not express their true feeling and attitudes. After subjects completing the questionnaire, the investigator found from conversation with them that some of subjects had depression

for their injury hands. Some subjects mentioned they had no confidence for going out in public and unwilling to take part in any activity in public even among close friends or relatives. One subject informed that his fiancée left him resulting from anticipatory negative consequences of his having hand injury.