

جامعة القدس



كلية الصحة العامة

School of Public Health

القدس - فلسطين

وزارة الصحة



**Deanship of Graduate Studies
Al – Quds University**

Coping Strategies among Paraplegic Patients in Gaza Strip

**Submitted by
Ibrahim Mohammad Shakshak**

MPH Thesis

Jerusalem – Palestine

2006

Coping Strategies among Paraplegic Patients in Gaza Strip

Prepared By:
Ibrahim Moh. Shakshak

B. Sc. Bethlehem University – Palestine

Supervisor: Dr. Suzanne Shasha'a, Assistant dean of the
school of Public Health

A thesis submitted in partial fulfillment of requirements
for the degree of Master of Public Health
Al-Quds University

2006



Thesis Approval

Coping strategies among paraplegic patients in Gaza Strip

Prepared by: Ibrahim Moh. Shakshak
Registration No: 20211523

Supervisor: Dr. Suzanne Shasha'a

Master thesis submitted and accepted, Date 22 / 1 / 2007

The names and signatures of the examining committee members are as follow:

- | | |
|-----------------------|-----------------|
| 1. Head of committee: | Signature |
| 2. Internal Examiner: | Signature |
| 3. External Examiner: | Signature |

Jerusalem – Palestine

Dedication

This thesis is dedicated to my loving family, who has shown unconditional love and support from beginning to end.

To those who were always supporting me...

I dedicated this work to

Soul of my father

Soul of my mother

My wife

My sons and daughters

Every body believes I can do it

Those who gave me every opportunity of success

Ibrahim Moh. Shakshak

Jerusalem – Palestine

2006

Declaration

I certify that all this thesis submitted for the degree of Master is the result of my own research, except where otherwise acknowledged, and that this thesis (or any part of the same) has not been submitted for a higher degree to any other university or institution.

Signed:

Ibrahim Moh. Shakshak

Date: 1st November 2006

Acknowledgement

I would like to express my gratitude to people who assisted me during my research.

Without their support this work would not have been done:

Dr. Suzanne Shasha'a, the assistant dean of the school of public health, my academic supervisor, for her continuous support, unbelievable tolerance and approach in dealing with this topic, useful guidance, and help.

My deep respect and sincere thankfulness to Dr. Abdel Aziz Thabet, the assistant professor of psychiatry school of public health.

My thanks expanded to all those who provided valuable suggestions and assistance especially, Mr. Saa'di Abu Awwad.

My thanks to the school of Public Health lecturers, staff, and personnel for their generous kind, support, and assistance.

My thanks go to all paraplegic persons for their cooperation, and participation in this study.

Last but not least, I wish to express my sincere gratitude to all who have supported me while working on my thesis but not aforementioned.

Researcher

Ibrahim Mohammad Shakshak

Abbreviations

CBR	Crude Birth Rate
CDC	Centers for Disease Control
CMH	Community Mental Health
CSTDA	Commonwealth State/Territory Disability Agreement
CVA	Cerebro-vascular Accident
EEG	Electro-encephalography
EU	European Union
GS	Gaza Strip
HEPD	Health Promotion and Education Directorate
ICF	The International Classification of Functioning
MOH	Ministry of Health
MPDL	Movimiento por la Paz, el Desarmey la Libertad
NGO,s	Non Governmental Organizations
NIS	New Israeli Shekel
PHC	Primary Health Care
QOL	Quality of Life
SCI	Spinal Cord Injury
SPSS	Statistical Package for Social Science
UN	United Nations
US	United States
WB	West Bank
WHO	World Health Organization

Terminology

Anatomic: Related to the structure of the human.

Anesthesia: Partial or complete loss of sensation with or without loss of consciousness as result of disease, injury, or administration of a drug or gas.

Anxiety: A troubled feeling; experiencing a sense of dread or fear, esp, of the future, or distress over a real or imagined threat to one's mental or physical well-being.

Areflexia: State without reflexes.

Cauda equine: The terminal portion of the spinal cord and the roots of the spinal nerves below the first lumbar nerve.

Cognition: Awareness, having perception and memory. The mental process by which knowledge is acquired.

Demography: Statistical study of births, marriages, and deaths, and physical, moral, and intellectual development.

Distress: Physical or mental trouble or suffering.

Down's syndrome: Mongolism, a variety of congenital, moderate to severe mental retardation. Marked by sloping forehead; presence of folds causing an Oriental appearance of eyes; bridge of nose flat or sometimes absent; low-set ears; and generally dwarfed physique.

Dysfunction: Abnormal, inadequate or impaired function of an organ or part.

Epidemiological studies: Studies related to the division of medical science concentrated with defining and explaining the interrelationships of the host, agent, and environment in causing disease; medical ecology.

Epilepsy: Recurrent transient attacks of disturbed brain function. Characterized by various combinations of the following motor, sensory, or psychic malfunction; with or without convulsions; altered or complete loss of consciousness.

Flaccid: Relaxed, flabby, having defective or absent muscular tone.

Flashbacks: The return of imagery and hallucinations after immediate effects of hallucinations have worn off. These may occur for an extended period. Usually they are of a frightening or threatening form, but may consist only of perceptual distortion.

Hyper-: Prefix meaning above, excessive, or beyond.

Microcephaly: Abnormal smallness of head often seen in idiocy; it is congenital.

Muscular dystrophy: Wasting away and atrophy of muscles.

Orthopedic disorders: Disorders related to skeleton abnormalities.

Paraplegia: Paralysis of lower portion of the body and both legs.

Pneumonia: Infection related to the lungs.

Post-: A prefix meaning behind or after.

Pre-: Prefix indicating before or in front of.

Pulmonary emboli: A mass of undissolved matter present in vessel of the lungs brought by the blood current which usually results in the development of infarcts.

Scoliosis: Lateral curvature of the spine. Usually consists of two curves, the original one and a compensatory curve in the opposite direction.

Septicemia: Morbid condition from absorption of septic products into blood and tissues or of pathogenic bacteria which may rapidly multiply there.

Spasticity: Hypertension of muscles causing stiff and awkward movements: the result of upper motor neuron lesion.

Spina bifida: Congenital defect in walls of spinal canal caused by lack of union between the laminae of the vertebrae. Lumbar portion is chiefly affected.

Abstract

It was clear that independent factors such as: age, gender, living area, marital status, education, occupational status, and income have a noticeable impact on the types of coping strategies used by paraplegic persons. This study aimed to demonstrate the types of coping strategies used by paraplegic persons in relation with the independent demographic and economic factors to suggest recommendations may contribute to enhance their coping.

A descriptive analytic cross-sectional design was used to represent the entire sample of the population with all possible ethical considerations. The study population was all adult paraplegic persons in Gaza Strip. The study sample consisted of 164 of the total number with a response rate 71.6%. Semi-structured interviewed questionnaire was used. Coping strategies were assessed by the use of a revised version of the Ways of Coping.

The results showed that Wishful thinking and avoidance were the most common types of coping strategies used by females, paraplegics living in Rafah, and the post-injury unemployed paraplegic persons.

Planful problem solving was the most type of coping strategies used by male paraplegics, the above class 12 educated paraplegics, the after injury employed paraplegics, and paraplegics with income after injury higher than 1500 NIS.

Reappraisal was the most type of coping strategies used by paraplegics who had education higher than class 12, paraplegics living in Khan Younis and Gaza, and the after injury employed paraplegic persons.

Affiliation is the most type of coping strategies used approximately by the group of paraplegic persons aged between 18-31 years old.

Accepting responsibility was the most type of coping strategies used by adult paraplegics finishing 10-12 class, paraplegic persons who had above class 12 education, and the after injury employed paraplegic persons.

Self-controlling is the most common type of coping strategies used by males, paraplegics having 10-12 class, paraplegics having above 12 class education, paraplegic persons living in Gaza governorate, and the after injury employed paraplegic persons.

Distraction and escape was the most common type of coping strategies used by the unemployed paraplegic persons and paraplegic persons living in Rafah.

Generally, the findings expressed that masculinity, high education, employment after injury and living in Khan Younis and Gaza are indicators for using positive confronting and problem solving coping strategies (efforts to do something active to alleviate the stressful circumstances), while femininity, unemployment post-injury, and living in Rafah are indicators for using negative, avoidant, and focused coping strategies (efforts to regulate the emotional consequences of stressful event).

In the light of analysis and interpretation of the data, recommendations were introduced in order to help paraplegic persons in Gaza Strip to enhance their coping by introducing educational programs including counseling and psychotherapy for the paraplegic persons and their families concerning enhancing positive and functional coping and re-integrating the paraplegic persons in their community.

In addition, further research was recommended for more investigation.

ملخص الدراسة

"إستراتيجيات التأقلم لدى مرضى الشلل السفلي في قطاع غزة"

لقد بات واضحاً أن العوامل المستقلة مثل العمر والجنس ومنطقة السكن والحالة الاجتماعية ومستوى التعليم والمهنة ومعدل الدخل الشهري لها تأثير واضح على أنواع الإستراتيجيات التي يستخدمها الأشخاص المصابون بالشلل السفلي للتأقلم مع إعاقاتهم.

وتهدف هذه الدراسة إلى إظهار الفرق بين أنماط الإستراتيجيات المختلفة التي يستخدمها الأشخاص المصابون بالشلل السفلي في قطاع غزة للتأقلم مع إعاقاتهم وعلاقتها بالعوامل الديموغرافية والاقتصادية المستقلة بغية اقتراح توصيات قد تساهم في تحسين تأقلمهم.

وقد استخدم الباحث أسلوب المنهج الوصفي التحليلي المقطعي، وقد قام بنفسه بتنفيذ الاستبيان وجمع المعلومات وذلك من أجل توفير أكبر قدر ممكن من المصادقية آخذاً في الحسبان كل الاعتبارات الأخلاقية الممكنة. وقد استخدم الباحث النسخة العربية للإصدار المعدل لمقياس طرق التأقلم الذي طورته فولكمان وزملاؤها حيث يشمل مجموعة من أساليب التأقلم المعرفية والانفعالية والسلوكية التي يستخدمها الناس عادة في مواجهة أحداث ضاغطة معينة. ويحتوي الاستبيان باللغة العربية على 44 بنداً تمت صياغتها واستخدامها بنجاح مرات عديدة من قبل باحثين آخرين.

إن عينة الدراسة في هذا البحث هم جميع البالغين المصابين بالشلل السفلي في قطاع غزة، حيث استطاع الباحث الحصول على 229 شخصاً بالغاً من كلا الجنسين، شارك 164 منهم في الاستبيان بمعدل 71.6%، بينما بقي 65 شخصاً لم يشاركوا في الاستبيان لأسبابٍ عديدةٍ ومتنوعة.

وباستعمال برنامج الحزم الإحصائية SPSS لإدخال وتحليل البيانات، أفرزت النتائج ما يلي:

أن استراتيجيات التفكير الرغبي والتجنب كانت أكثر استعمالاً لدى الإناث، وساكني رفح، والأشخاص الذين لم يعملوا بعد الإصابة.

أن استراتيجية حل المشكلة بالتخطيط الفعال كانت أكثر استعمالاً لدى الذكور، والحاصلين على مستوى من التعليم أعلى من المرحلة 12 (وتشمل المعاهد والجامعات)، والذين يعملون بعد الإصابة، والذين لديهم دخلاً شهرياً أكثر من 1500 شيكل وهو مستوى خط الفقر في المجتمع الفلسطيني.

أن استراتيجية إعادة التقييم كانت أكثر استعمالاً لدى الحاصلين على تعليم أعلى من المرحلة التعليمية 12، والذين يسكنون في خانينوس وغزة، والذين يعملون بعد إصابتهم.

أن استراتيجية الإنتماء كانت بالتقريب أكثر استعمالاً لدى الفئة العمرية 18-31 سنة.

أن استراتيجية تقبل المسؤولية كانت أكثر استعمالاً لدى المصابين في المرحلة التعليمية 10-12 والحاصلين على تعليم أعلى من المرحلة التعليمية 12، وكذلك لدى الذين يعملون بعد الإصابة.

أن استراتيجية السيطرة على النفس كانت أكثر استعمالاً لدى الذكور، والذين يسكنون غزة وخانينوس، والحاصلين على مستوى التعليم 10-12 وأعلى من المرحلة التعليمية 12، والذين يعملون بعد إصابتهم.

وأن استراتيجية الإرتباك والهروب كانت أكثر استعمالاً لدى المصابين الذين يسكنون رفح، والذين لا يعملون بعد إصابتهم.

وعموماً، فإن النتائج أظهرت أن عوامل الذكورة والتعليم العالي ووجود عمل بعد الإعاقة والدخل الشهري أعلى من 1500 شيكل شهرياً والمعاقين الذين يسكنون في خانينوس وغزة، هي مؤشرات إيجابية تدل على استعمال مرضى الشلل السفلي لاستراتيجيات عملية إيجابية وفعالة للتأقلم مع إعاقاتهم ومواجهة الضغوطات التي تواجههم، بينما عوامل الأنوثة وعدم وجود عمل بعد الإعاقة والمعاقين الذين يسكنون محافظة رفح هي مؤشرات تدل على استعمال استراتيجيات غير عملية وأحياناً سلبية وتجنب مواجهة المشاكل الناجمة عن إعاقاتهم واستعمال أساليب انفعالية لحلول مؤقتة لا تحل المشكلة على المدى البعيد.

وعلى ضوء هذه النتائج قدم الباحث عدة توصيات للعمل على مساعدة مرضى الشلل السفلي النصفى على التأقلم الجيد مع إعاقاتهم وذلك بتقديم برامج تعليمية تشمل برامج إرشادية ونفسية لهؤلاء الأشخاص وعائلاتهم من أجل تحسين أساليب تأقلمهم مع إعاقاتهم وإعادة دمجهم في مجتمعهم. كما قدم الباحث توصيات بالقيام بأبحاث مستقبلية تثير بعض الجوانب التي ما تزال في حاجة لمزيد من البحث والاستقصاء.

Table of Contents

No.	Title	Page
Chapter One: Introduction1		
1.1	Disability	5
1.2	Demography and population in Palestine	9
1.3	Disability in Palestine	10
1.4	Primary Health Care (PHC)	13
1.5	Hospitals in Palestine	13
1.6	Community mental health (CMH)	14
1.7	Rehabilitation services in Palestine	14
1.8	Conclusion	16
1.9	Problem statement	18
1.10	Justification of the study	18
1.11	Objectives	19
1.12	Research questions	19
Chapter Two: Literature review21		
2.1	Anatomy of spinal cord	21
2.2	Spinal cord injury	22
2.3	Definition of spinal cord injury	23
2.4	Classification of spinal cord injury	23
2.5	Spinal cord injury and disability	25
2.6	Neurological level of injury	25
2.7	Common Causes of spinal cord injury	26
2.8	Incidence and prevalence	26
2.8.1.	Age at injury	27
2.8.2.	Gender	27
2.8.3.	Life expectancy	27
2.8.4.	Other demographics	28
2.8.5.	Participation and reintegration in work	28
2.9	Impact of spinal cord injury	28
2.10	Examples of consequences of SCI	29
2.11	Psychological consequences of SCI	30
2.12	Stress	31
2.13	Stress and coping	33
2.14	Adjustment	35
2.15	Adjustment problems with SCI	36
2.16	Stress, adjustment, and coping	37
2.17	The concept of coping	37
2.18	Definitions of coping	38
2.19	Dimensions of coping	41
2.20	Coping strategies	42
2.21	Coping styles	49
2.22	Conclusion	51

Chapter Three: Conceptual Framework 52

3.1	Introduction	53
3.2	Age	53
3.3	Gender	54
3.4	Living area	55
3.5	Marital status	56
3.6	Educational level	57
3.7	Occupation	58
3.8	Income	58
3.9	Conclusion	59

Chapter Four: Methodology60

4.1	Study design	60
4.2	Population and sample	60
4.2.1.	Study population	60
4.2.2.	Study sample	61
4.3	Eligibility criteria	61
4.3.1.	Inclusion criteria	61
4.3.2.	Exclusion criteria	61
4.4	Setting of the study	61
4.5	Sampling process	62
4.6	Ethical matters	62
4.7	Research instrument	62
4.8	Questionnaire design	63
4.9	Reliability	65
4.10	Data collection	66
4.11	Statistical analysis	66

Chapter Five: Results 68

5.1	Characteristics of the study population	68
5.1.1.	Distribution of the study population according to gender	68
5.1.2.	Distribution of the study population according to age group.....	69
5.1.3.	Distribution of the study population according to living area	70
5.1.4.	Distribution of the study population according to marital status	70
5.1.5.	Distribution of the study sample according to educational level	71
5.1.6.	Distribution of the study sample according to employment status	72
	Pre-injury	
5.1.7.	Distribution of the study sample according to employment status	72
	Post-injury	
5.1.8.	Distribution of the study sample according to income	73
5.2	Coping strategies among paraplegic persons	73
5.2.1.	Coping strategies and gender	79
5.2.2.	Coping strategies and age	80
5.2.3.	Coping strategies and living area	83
5.2.4.	Coping strategies and marital status	86
5.2.5.	Coping strategies and education	87

5.2.6.	Coping strategies and employment status pre-injury	90
5.2.7.	Coping strategies and employment status post-injury	91
5.2.8.	Coping strategies and income	93

Chapter Six: Conclusion and Recommendation95

6.1	Conclusion	95
6.2	Recommendations	97
	References	100
	Annexes	114

.

List of Tables

No.	Title	Page
Table 4.1:	Alpha Cronbach	65
Table 5.1:	Means of coping strategies among paraplegic persons	74
Table 5.2:	Independent t-test comparing means of coping strategies according to gender	80
Table 5.3:	One-way ANOVA comparing coping strategies and age	82
Table 5.4:	One-way ANOVA comparing coping strategies and living area.....	84
Table 5.5:	Independent t-test comparing means of coping strategies according to marital status	87
Table 5.6:	One-way ANOVA comparing means of coping strategies according to educational level	88
Table 5.7:	Independent t-test comparing means of coping strategies to employment status pre-injury	91
Table 5.8:	Independent t-test comparing means of coping strategies according to occupational status post-injury	92
Table 5.9:	Independent t-test comparing means of coping strategies according to income	94

List of figures

No.	Figure	Page
	Figure 3.1: Conceptual Framework	52
	Figure 5.1: Distribution of the sample according to gender	69
	Figure 5.2: Distribution of the sample according to age group	69
	Figure 5.3: Distribution of the sample according to living area	70
	Figure 5.4: Distribution of the sample according to marital status	71
	Figure 5.5: Distribution of the sample according level of education	71
	Figure 5.6: Distribution of the sample according to the employment status	72
	Pre-injury	
	Figure 5.7: Distribution of the sample according to the occupational status	72
	Post-injury	
	Figure 5.8: Distribution of the sample according to income	73

Definitions

Adjustment: It is defined as the process of restoring balance among the psychosocial, biological-organic, and environmental factors in one's life. If the imbalance can't be corrected by curing the problems in the biological-organic facets of the system, then a new balance is achieved by making accommodations in one's psychosocial and environmental resources (Trieschmann, 1988).

Coping: It is defined as the cognitive and affective responses used by the individual to manage stress (Folkman & Moskowitz, 2004).

Coping strategies: It is defined as efforts to manage a situation might have various consequences (Elfstrom, 2003).

Disability: It is defined as any restriction or lack (resulting from impairment) of ability to perform an activity in the manner or within the range considered typical for a human being (Chase, Cornille & English, 2000).

Emotion-focused coping: It is defined as efforts to change the way the situation is appraised or the meaning of the situation (Lazarus, 1993).

Health promotion: It is defined as activities directed toward increasing the level of well-being and actualizing the health potential of individuals, families and communities/societies (Breslow, 1999).

Paraplegia: It is defined as paralysis in the lower part of the body from approximately the waist down (Wood-Dauphinee et al., 2002).

Problem-focused coping: It is defined as efforts to solve the problem that caused stress by acting on the environment (Lazarus, 1993).

Quality of life: It is identified as a reaction to the (lack of) congruence between aspirations and accomplishments as perceived by the person involved (Duggan & Dijkers, 1999).

Rehabilitation: It is defined as a multi-disciplinary and comprehensive process aimed at enabling an individual to function in their environments through biomedical and/or social interventions (Stineman, 2001).

Secondary conditions: It is defined as negative health outcomes that occur as a direct result of a SCI-related disability (Meyers et al., 2000).

Self-esteem: It is defined as how the person views his/her self worth (Brown, Collins, & Schmidt, 1988).

Social support: It is identified as a moderator in stressful situations (Livneh & Antonak, 1997).

Spinal cord injury: It is defined as the occurrence of an acute, traumatic lesion of neural elements in the spinal canal (spinal cord and cauda equina) resulting in temporary or permanent sensory deficit, motor deficit, or bladder/bowel dysfunction (Thurman et al, 1995a).

Stress: It is defined as a physiological response to a perceived threat (Pinel, 2003).

Chapter 1

Introduction

Human life includes since its early beginning a chain of continuous reactions between the character of the individual and his surrounding context. These reactions always aim to create conformity and balance between his/her physical, psychical and social states on one side, and the environmental factors affecting his/her health, mental state and his/her reaction with others on the other side. These reactions mostly lead to high satisfaction, but if this reaction disturbed for a reason or another, then the human tries to readjust her/himself with this new condition by using his/her previous experiences and by using what he/she had learned from his/her family, work, school ...etc. in order to cope with the new situation.

The outer physical aspect and the external general appearance of the disabled person are considered one of the important factors affecting his/her notion about his disability. Although this impact may be indirect, it is considered in one side a connecting link between the evaluations were made by the people about the disabled person and their behaviors and transactions accordingly, and the reactions and reflexes made by the disabled person toward those transactions on the other side. Whereas these transactions are more serious than the disability itself because of it's direct emotional and psychological effects on the disabled person. This is supported by Kilbury et al, (1996) who postulated that the social stigma isolates a person with a disability to a much greeter degree than the disability itself. Kilbury et al, (1996) stated that it is difficult to change negative attitudes and perceptions about people with physical disabilities. One of these negative behavioral

attitudes is the tendency for the disabled persons to be physically avoided by the normal persons. On these bases, the disabled person builds his/her own concept about his/her disability and creates his expectations about what he/she can perform and what he/she can't, and on these bases he/she copes with his/her disability.

There is a high prevalence of depression following spinal cord injury (SCI), minority individuals, particularly women, are at a higher risk for depressive symptoms (Krause et al, 2000), but the SCI person will be better coping with his disability and less likely to become depressed if his/her independence is fostered in which he develops new sources of self-esteem, and relatives are counseled to help maintain supportive relationships within the family (Boekamp et al, 1996). Self-esteem was defined by Brown, Colins, and Schmidt as how the person views his or her self worth (Brown et al, 1988).

Disabled people with SCI need rehabilitation. If these needs were confined in medical care we call this type of needs medical rehabilitation. If their needs were restricted in regaining the utmost possible level of physical abilities then they needs physical rehabilitation.

Person with disability has lower level of self-esteem and self-worth than his/her typically developing peers (King et al., 1993). Therefore, if he/she faces difficulties during the readjustment process with his family, friends and social relationships then he/she needs social rehabilitation in order to face these difficulties. If his/her trouble is involved with occupation, then he needs occupational rehabilitation, but if he failed to cope with his disability then he needs psychological rehabilitation (King et al., 1993). Rehabilitation focuses on preventing muscle wasting and contractures, and works to retrain the patient to use other muscles to aid in mobility and movement but studies have also shown that

exercise may have a beneficial effect on anxiety, stress and depression by increasing feelings of control, independence and self-esteem (Winningham, 2001).

The physical, social and emotional adjustments, which determine the eventual successful outcome following the injury, vary considerably from person to person with some making satisfactory adjustments whereas others remain chronically distressed (Chase et al, 2000).

Factors such as architectural barriers, discriminatory society attitudes and unemployment have been identified as some of the distressing physical and social adjustment problems that spinal cord injured individuals encounter once back in the community (Levins et al, 2004).

In addition, a variety of factors relating to the experience of SCI potentially have an effect on an individual's psychological adjustment. Some of the factors reported by individuals with a spinal cord injury include, fear of rejection by partners or peers, poor coping skills and a struggle with self-identity (Levins et al, 2004).

Rehabilitation is defined as a multi-disciplinary and comprehensive process aimed at enabling an individual to function in their environments through biomedical and/or social interventions(Stineman,2001). Rehabilitation programs aim to enhance adjustment to life following SCI by equipping the individual with the skills and resources required for community re-integration. The degree of functional improvement, which is more relevant in predicting rehabilitation outcome, depends on the level and extent of lesion. However, despite the intensive efforts of rehabilitation through education and functional skills training, people with SCI experience a range of short-and long-term physical and psychosocial difficulties once they return to the community (Kendall et al, 2003). DeVivo and Richards, (1992) found that reintegrating of individuals with SCI back into the community reported high levels of quality of life (QOL). Bowling (1997) defines QOL as

“a concept representing individual responses to the physical, mental and social effects of illness on daily living, which influences the extent to which personal satisfaction with life circumstances can be achieved”. Duggan and Dijkers in 1999 identified QOL as " a reaction to the (lack of) congruence between aspirations and accomplishments as perceived by the person involved". The widespread view of a good QOL is usually based on the idea of good health and experiencing personal well being and life satisfaction e.g. independence, fitness, status and respect.

As a result of the changing social and political emphasis on disability, the evolving field of SCI rehabilitation does not only now focus upon functional outcomes, but also incorporates the emergent themes of independent living and psychological well being. As highlighted by Inman (1999), the aims of SCI rehabilitation include "optimizing physical function, facilitating social independence, minimizing medical complications, enhancing emotional adaptation and promoting reintegration into the community". In view of this, it can be said that enhancing QOL is the ultimate goal of spinal injury rehabilitation practice (Inman, 1999).

Some theoretical models have been developed and studied to predict potential physical abilities based on spared motor and sensory functions (ICF, 2001). Welch and his colleagues (1986) agree that paraplegic persons can achieve independence in self-care skills (Welch et al., 1986). The functional performance of those disabled persons also depends on other factors, such as age, co-morbidity, health problems, motivation and coping (DeVivo et al., 1990). Studies that actually evaluate the functional prognosis as predicted by professionals are rare (Waters et al., 1994). In several studies by Waters et al. the motor and sensory recovery following traumatic SCI was quantified, using the initial

level of injury (Waters et al., 1993; Waters et al., 1992; Waters et al., 1994). There is no cure as yet for a spinal cord injury, most of the neurological recovery occurs within the first six months after injury (Waters et al., 1993). It results in significant and permanent life changes for the persons who are injured, as well as their families and friends (O'Hare & Hall, 1997).

The cornerstone of caring with the paraplegic persons is dealing with them as human beings having their legitimate human rights for a reassured, tranquilized and respectable life. Helping of paraplegic persons to cope with their disabilities should be an important part of the whole rehabilitation process in all countries and mainly in the Palestine.

Thereby in one side to remove an extra heavy burden they may produce upon our country who is primarily suffering, and in the other side, to return them back to society as effective persons in order to collect all human capacities to share the building process of our developing society. In 1975 the UN issued the landmark Declaration on the Rights of Disabled Persons. Article three point to that disabled persons, whatever the origin, nature of seriousness of their disabilities, have the same fundamental rights as their fellow citizens of the same age which implies first and foremost the right to enjoy a decent life as normal and full as possible.

1.1 Disability

Most of the time, we hear this question: why should we care with disabled persons? we have no time or capabilities neither for normal people nor to be directed to the disabled persons! This query is not rational because it is not different than that opinion of the Ancient Greek to annihilate all abnormal persons under an excuse of their abnormalities.

Infamously, influential philosopher Peter Singer and some supporters have promoted such views and have stated that "Killing a defective infant is not morally equivalent to killing a person. Sometimes it is not wrong at all" (Singer, 1993).

The concept of disability is vague, not consistently defined, and is more often expressed in qualitative rather than quantitative terms. It is often heavily politicized, used to stir emotions and to estimate the worth of certain groups of individuals. Recent court rulings seem to suggest that disabilities are only those conditions not correctable with the use of assistive devices, medication or changes in behavior.

"The word "disabled" is used as a blanket term to cover a large number of people who have nothing in common with each other, except that they do not function in exactly the same way as those people who are called normal" (Brisden, 1986). Because of the effect of aging and the physical limitations, no human is perfect. Imperfect judgments or actions influenced by environmental factors and thus the term disabled can be accurately applied to everyone at any given time. Everyone is "unable" to do certain things at sometime. Consequently, the human weaknesses and imperfections, play a conclusive role in the vulnerability of humans to injury and their capacity to respond to and recover from injury. Therefore, any condition (that impairs judgment, mobility, strength, reaction time sight, hearing, touch, and smell) can be classified as a disability and be a contributing factor to injury events (Pickett et al., 1996).

The social model of disability would suggest that disability results from the societal response or lack of response to people with a physical impairment rather than the impairment itself (Oliver, 1996). The International Classification of Functioning, Disability

and Health recognize the role of physical and social environmental factors in affecting disability. Disability is defined as any restriction or lack (resulting from impairment) of ability to perform an activity in the manner or within the range considered typical for a human being (Chase et al, 2000). In the International Classification of Functioning, Disability and Health (ICF) (2001), the term disability serves as an umbrella term for impairments, activity limitations or participation restrictions.

According to The Disability Discrimination Act 1995, disability is defined as: "... a person has a disability for the purposes of the act if he has a physical or mental impairment which has a substantial long term adverse effect on his ability to carry out normal day to day activities". Disability is conceptualized as being a multidimensional experience for the person involved, relating to body functions and structures, activities, and the life areas in which the person participates (WHO, 2001).

The CSTDA (2003) defines people with disabilities who are eligible for CSTDA funded services as people with disabilities attributable to an intellectual, psychiatric, sensory, physical or neurological impairment or acquired brain injury (or some combination of these) which is likely to be permanent and results in substantially reduced capacity in at least one of the following:

- self-care/management
- mobility
- communication

requiring significant ongoing and/or long term episodic support and which manifests itself before the age of 65 (CSTDA, 2003).

The World Health Organization (International Classification of Functioning, Disability and Health, 2001) (ICF) defines disability as: "the outcome of the interaction between a person with an impairment and the environmental and attitudinal barrier he/she may face" (ICF, 2001).

Across the European Union there are a wide range of definitions of disability in use.

Mabbett concluded that definitional plurality was appropriate as some definitions are better than others in relation to some policies and fields of provision (Mabbett, 2005).

The White Paper on an Integrated National Disability Strategy (1997) outlined the following causes of disability:

- Violence and war: injuries as a result of mines and psychological trauma especially in women and children.
- Poverty: disabilities are caused by overcrowded and unhealthy living conditions.
- Unhealthy lifestyle: disabilities are caused by the misuse and/or abuse of medication, drugs, deficiencies in essential foods and vitamins. Disabilities may also be caused by stress and other psychosocial problems.
- Environmental factors: Disabilities may be caused by epidemics, accidents and natural disasters, pollution of the surrounding atmosphere and poisoning by toxic waste and other hazardous substances.
- Accidents: disabilities are caused by industrial, agricultural and road traffic accidents and sport injuries.
- Social environment: Disabilities may be caused when people with disabilities are marginalized and discriminated against creates an environment in which prevention and treatment are difficult (White Paper, 1997).

Matsebula, (2003) mentioned that there are over 600 million persons with disabilities throughout the world. Of these, 180 million are children, 400 million live in developing countries and 80 million are in Africa. Also he predicted that the population of disabled persons will rise to 900 million worldwide by the year 2025 about 650 million of them will be in developing countries (Matsebula, 2003).

The WHO estimates a disability prevalence of only 10 per cent worldwide (Jolley, 2003). It is therefore perhaps not surprising that the World Health Organization predicts that depression will be the second leading cause of the global "burden of disease" by the year 2020, where presently it ranks fourth (WHO, 2003, 2004).

1.2 Demography and population in Palestine

The total number of population in Palestine in 2004 was 3,637,529 Gaza Strip (GS) 1,337,236 and West Bank (WB) 2,300,293. The distribution of population by gender shows that males constitute 50.6%. The total number of refugees in Palestine was 1,541,337 (GS 884,376 and 656,961 WB). The life expectancy was 72.6 years (M 71.1 & F 74.1 years). The Crude Birth Rate (CBR) was 28.6 per 1000 population. The crude death rate was 2.8 per 1000 population. The percent of population under 15 years old was 46.3% (GS 49.4% and 44.4% WB). The percentage of population above 65 years was 2% (GS 1.6 and 2.2% in WB). The sex ratio was 102.6 males per 100 females (GS 102.7 and 102.6 WB). Dependency ratio was 97.5 (GS 108.5 and 114.5 WB). The population natural increase rate was 2.5% (2.8% in GS and 2.3% in WB). The number of births was 103,870 (GS 44,987 and 58,883 WB). The CBR was 28.6 (GS 33.6 and 25.6 WB) per 1000 population. The median age was 16.7 years (GS 15.4 and 17.7 WB) (MOH, 2005).

Gross National Income (GNI) in 2002 declined to 40 percent less than in 2000. Real per capita incomes are now only half of their September 2000 level. Unemployment stands at 40 percent of the workforce. Using a poverty line of US\$2 per day, the World Bank estimated that 21 percent of the Palestinian population were poor before the *Intifada*, a number that increased to about 60 percent by December 2002. Accounting for population growth, the numbers of the poor have tripled, from 637,000 to just under 2 million. The poor are also getting poorer. In 1998, the average daily consumption of a poor person was equivalent to US\$1.47 per day. This has now slipped to US\$1.32. More than 75 percent of the population of the Gaza Strip are now poor (World Bank, 2003). This illustrates how much serious is the economical situation in the Palestinian territories, and how much this poor economical situation may inflict damage on the disabled sector in general and the paraplegic persons in particular affecting their coping with their disability accordingly.

1.3 Disability in Palestine

Disability in the Palestinian territories is a serious and aggravated social issue, especially after the Israeli military actions since September 2000. According to MOH, (2004), a screening and registration survey of disabled made by (Movimiento por la Paz, el Desarmey la Libertad (MPDL) in Northern and Middle Gaza Strip was conducted in October 2002. The overall number of residents screened in the northern and middle areas was 357,865 living in 54,606 households, in an average of 6.55 persons per household, whereas 29,022 households in the Northern areas with number of residents of 202,367 and 25,584 in the Middle areas with number of residents of 155,498.

The total number of functionally disabled people found and registered during the summer of 2002 was 5,649 representing an average of 1.58% of the total population with a

prevalence rate of functionally disabled at 1.58%. Spinal cord injuries were 91 cases representing (1.21%).

About 49% of the disabled found were less than or equal to 16 years old, and 50.9% were 17 years old and above. This high percentage of disabled persons who are less than or equal 16 years old (49%) indicates that disability in Gaza Strip is represented by a society of young people which may affect the type of coping strategies used.

About 80.69% of the 2,745 disabled aged above 18 years were unemployed.

Average age of the disabled was 30 years, where the median age of the disabled is between 16-17 years. This indicates that unemployment is prevalent among the adult disabled persons in Gaza Strip which may also affect types of coping strategies used.

About 45.7% of the disabled adults found were literate with at least a primary 1-6 level education. Out of the disabled children found, 61.8% were either illiterate (58.3%) or had only basic level reading and writing skills (3.5%). This high percentage of illiterates and low levels of education is another factor may affect the types of coping strategies used by the disabled persons.

87.13% of the disabled in the areas surveyed live in households where they are the only disabled resident. 15.01% of households found had five children present either related or not related to the disabled person present. Of the 5649 disabled registered through the screening process, 5399 had an income of between \$0 and \$199, representing 95.57% of the disabled identified. 77.18% of the disabled found were refugees. This indicates more burden of hard economical pressure upon the Palestinian society who is already suffering. 59.73% of the disabled found were male and 40.27% were female. 37.6% are married, 55.34% are single, 0.95% are divorced and 6.35% are widowed. Many cases a disabled person identified had more than one disability. Therefore, 5649 disabled people found

share a total of 7547 disabilities. The most prevalent of the total number of disabilities found was orthopedic disorders were representing 14.97% of disability cases found. 59.26% of all the disabilities identified were among males and 40.74% among females. The high percentage of married disabled persons clarifies the difficulty of the economical and psychological problems that the disabled people encounter in the Palestinian society as those married disabled people are responsible about families, therefore the pressure of unemployment and hard economical situation duplicate the stress they encounter and deliver extra psychological consequences which may have a great impact upon the types of coping strategies used.

Of the 5649 disabled people found, 5443 technical aid devices are needed. 20.33% of all technical aid items needed are incontinence devices mostly needed for people with spinal cord injuries.

In the course of screening, a total of 5884 home and environmental adaptations needed were identified. Most of them required more than one adaptation where the greatest rate of needed changes is to the bathroom-toilet area (8.97% of total adaptations identified) (MOH, 2004). The needed technical aid devices and the required home and environmental adaptations need financial coverage which is unavailable by the government because of the outer economical blockade. The NGO's and donor sites don't also carry out this great responsibility because of various reasons. Therefore, the stressful situation remains very hard which reflects great impact upon the disabled persons and their ability to use proper and functional types of coping.

1.4 Primary Health Care (PHC) in Palestine

The total number of registered PHC centers in Palestine in 2004 is 731 centers, in which 125 centers in Gaza and 606 centers in West Bank (413 centers owned and supervised by the MOH with a percentage of 56.5%, 53 centers by the UNROWA with a percentage of 7.3% and NGOs have 265 centers with a percentage of 36.3% of the total centers). The average ratio of persons per center was 4,976 (10,698 in Gaza and 3,796 in West Bank) (MOH, 2005).

1.5 Hospitals in Palestine

MOH in 2005 reported that there are 77 hospitals (22 in Gaza and 55 in WB) furnished with 4,824 beds. (1,989 in Gaza and 2,835 in WB). The population/hospital ratio is 47,241 (41,824 in WB and 60,783 in Gaza).

In 2004, there are 43 general hospitals (3,539 beds). 10 specialized hospitals (813 beds, 20 maternity hospitals (315 beds) and finally 4 rehabilitation centers (157 bed). The total number of beds is 4,824, the population/bed ratio is 754.05 (672.32 in gaza and 811.39 in WB).

The MOH owns and operates 22 hospitals (10 in GS and 12 in the WB), furnished with 2,753 beds (1,491 in GS and 1,244 in the WB).

The general hospitals with 2,163 beds (1,199 in GS and 964 in WB), two psychiatric hospitals with 319 beds (280 in WB and 39 GS), one ophthalmic hospital in GS with 31 beds and two Pediatric hospitals in GS with 222 beds (MOH, 2005).

1.6 Community mental health (CMH)

In Palestine, mental health services are provided by four sectors, the MOH, UN, NGOs, and private sector. The CMH department in MOH provides preventive, curative and community-based rehabilitation programs.

Within the activities of CMH, the total number of new cases of mental disorders reported in Palestine in the year of 2004 was 1,967 with an incidence rate of 54.1 per 100,000 with an annual incidence of 41.3 per 100,000 in the last five years.

Mental health services are provided for the Palestinians population by 15 community mental health clinics (5 in GS, one specialized in child mental health, and 10 clinics in WB). These clinics are distributed through PHC centers in the different governorates in Palestine since 1994. In addition to community mental health clinics, there are two mental hospitals in Palestine (Bethlehem and Gaza psychiatric hospitals) (MOH, 2005).

1.7 Rehabilitation services in Palestine

The first Intifada (1987-1992) had a great effect of promoting and widen the rehabilitation services as a response to the Intifada circumstances and its needs of rehabilitation of the Intifada's casualties. There weren't any type of rehabilitation services in GS before the year of 1949 while there were 6 centers in WB. After the war of 1967 and the first Intifada after 1987 the number of rehabilitation centers increased markedly, where the number of rehabilitation centers in Palestine become 97 centers, 45 of them in WB and 52 centers in GS. The Regional NGO's share in more than half of these centers by offering rehabilitation services, then the Private Establishments and then the MOH and the Global NGO's (MOH, 2004).

It is noticed that there are no balanced distribution of the rehabilitation services between WB and GS. In addition, the rehabilitation services concentrate in limited number of the governorates on the account of the others, and it is noticed also that there are more concentration on compliance of needs for the handicap with motor disabilities that form 30% of the total disabilities where about two thirds of the establishments generally offer rehabilitation services to motor disability. In addition, in spite of the presence of all these numbers of rehabilitation centers but the disabled people still suffer of quantitative and qualitative lack of the offered services, and the majority of the disabled people still lack real opportunities for work, education and the needed health care and the majority of them still did not receive any kind of rehabilitation services. In addition, most of these rehabilitation centers concentrate in their work on the disabled themselves, neglecting of the material and social environment and surroundings that form the real obstacle against their inclusion in the society. In addition, these rehabilitation centers deal with persons with special needs issues as services and needs targets whereas, some of the NGO's concentrate only on offering physical and financial services, while the international tendency consider it as human rights issues.

It is clear that the current situation has inflicted damage on all aspects of life in the Palestine. This constant and systematic destructive policy of the occupation for the Palestinian society affected the disabled sector and the whole rehabilitation process in terms of number of disabled, quality of services offered, support programs for the disabled persons and their families.

The negative impact of the current situation is not only revealed in increasing the numbers of the disabled, but also inflated the percentage of disability in the Palestine. The physical

disability which was 32% of the total disability has now increased remarkably due to the restricted resources and capabilities of the rehabilitation centers in general and the physiotherapy centers in particular. 14% of the casualties and injured persons became permanently disabled who need not only physiotherapy services but also occupational therapy, counseling, and psychological support to secure them the opportunity for faster integration in the community. It is worth mentioning here that the density of the psychological trauma caused by the occupational actions sustained the victims with permanent psychological problems.

Due to the continuous closure, constant checkpoints that are posted on the roads, the curfews that are imposed on different areas and the excessive use of force against the Palestinian, all this has inflicted major damages on the rehabilitation process in general and the disabled sector in particular.

1.8 Conclusion

No doubt that disability weakens the capability of the disabled person and makes him in a pressing need to an outer conscious assistance depending on scientific and technological basis to return him to the best reachable level. No doubt also that the responsibility of offering that assistance falls upon the government, family, medical centers, and society, in addition to what is expected from the persons with special needs themselves.

However, persons with disabilities were a neglected group of people living on the margin of our society in a disturbed life within a context of frustration and deprivation.

Psychiatrics didn't pay enough attention to them except in the last few decades, by virtue of the social consciousness and the thinning feeling of jointly and severally within the

society whereas the merciless handling becomes unaccepted in the recent time as many of rules and constitutions provide for the necessity of justice, equality and equity realization, and the equality of opportunities between all citizens.

Persons who have physical impairments have great difficulty in being physically active due to a lack of programs in their communities (Robinson, 2002). It becomes no more accepted for the persons with disabilities to be separated in their society and no more accepted to leave them living on the margin of the cultural and economical life lacking the awareness of their psycho-social problems, and depending upon begging and mendicancy or upon the charity of the charitable in order to survive. Return to paid work is regarded as one of the most important outcomes of reintegration in society following a SCI (Noreau et al., 1999). It gives paraplegic persons a social status and meaning to life and makes them more financially independent. As the majority of traumatic Palestinian paraplegic persons are relatively young. Taricco and his colleagues concluded in their study in 1992 that attention to vocational reintegration is of particular importance, not just to the disabled persons themselves but also from a wider social point of view (Taricco et al., 1992)

Now, paraplegic persons in the Palestinian society have the full right to obtain the cultural and social care as like as the normal persons on a base of equity and the equality of opportunities, and to be merged in their society to share them life by using their utmost capabilities. Their feeling and dignity must be kept. Their psychical, physical, social, educational, and cultural needs must be respected and fulfilled. The disabled persons must enjoy full protection and other rights as exactly as the other normal persons allover the world. (U. N., 1969).

The **aim** of this study is to identify different types of coping strategies among paraplegic persons in Gaza Strip to suggest recommendations for enhancing their coping.

1.9 Problem statement

A whole range of socio-demographic and economical factors has been neglected when the process of coping is considered in reference to paraplegic persons in Gaza Strip. With few exceptions, the research on coping among paraplegic persons has failed to adequately account for the complexities of the process and these variables that impact coping. Thus the understanding of how coping is achieved and how socio-demographic and economical factors is limited. The need to expand the current understanding of the process, by identifying variables that relate to positive outcomes and the strategies that are used to achieve good outcomes is pressing. This leads to the following question: what is the relationship between the socio-demographic and economical factors and coping process.

1.10 Justifications of the study

As the researcher worked as a physiotherapist for as long as 29 years, he noticed that the numbers of paraplegic persons were increasing rapidly and some of them are cooperative and have the will and wish for rehabilitation while others were depressed, frustrated and uncooperative. Also, the researcher noticed lack of local literature on the topic, therefore, it was interesting for me to study coping strategies among paraplegic persons in Gaza Strip who have the full right to receive all types of assistance to learn more about their ways of coping with their impairments in order to recognize some of their behavioral patterns and

perceptions toward their disabilities, their different types of coping with their disabilities impose of physical, social and economical problems and frustrations on them.

1.11 Objectives

General Objective

To explore coping strategies among paraplegic persons in Gaza Strip.

Specific Objectives

- 1- To identify types of coping strategies among paraplegic persons in Gaza Strip.
- 2- To test gender differences in coping strategies.
- 3- To investigate the relationship between coping strategies and socio-demographic and economical status.
- 4- To suggest recommendations for developing programs to help paraplegic persons for better coping with their disabilities.

1.12 Research questions

- 1- Are there differences and relationship in coping strategies between male and female?
- 2- Are there differences and relationship between coping strategies and age groups?
- 3- Are there differences between coping strategies and marital status?

- 4- Are there differences and relationship between coping strategies and educational levels?
- 5- Are there differences and relationship between coping strategies and living area?
- 6- Is there a relationship between coping strategies and occupation?
- 7- Is there a relationship between coping strategies and monthly income?

Chapter 2

Literature review

The spinal cord consists of nerve fibers that carry messages between the brain and various parts of the body. In other words spinal cord, in a way or another, is like a telecommunications cable. It makes connection between the brain which represents the main communication centre and the various parts of the body which represent the branch offices by the nerve fibers which represent the telephone lines (Lindsey, 1999).

2.1 Anatomy of spinal cord

The spine is a chain of bones runs from the base of the skull to the pelvis in order to support the head and body. The spinal cord is part of the nervous system and is considered the largest nerve in the body. The spinal cord is surrounded by protective 29 bone segments called vertebrae all together consist the vertebral (or spinal) column. It is made up of 7 cervical (breathing, neck, arm, and leg muscles), 12 thoracic (trunk and legs), 5 lumbar (legs), 5 sacral (legs), and 4 coccygeal vertebrae (Senelick & Dougherty, 1998). The cervical, thoracic, and lumbar vertebrae are separated by intervertebral discs which are connected and stabilized by ligaments while the sacral and coccygeal vertebrae are fused (Somers, 1992). The spinal cord is about 18 inches long and runs in a canal through the length of the spine in the middle of the vertebral (or spinal) column. It extends from the base of the brain, down the middle of the back, to about the waist (Dickson & Tonkin, 1987).

The spinal cord consists of nerve fibers that send and receive messages back and forth between the brain and the other various parts of the body. By this way, the spinal cord is considered as a communication cable connecting the brain which is the main centre to the other parts of the body by its nerve fibers which are responsible for the communication systems of the body which include sensory, motor and autonomic functions (Lindsey, 1999). The nerves that lie within the spinal cord are called upper motor neurons. They carry the messages back and forth from the brain to the spinal nerves along the spinal tract. The spinal nerves that branch out from the spinal cord to the other parts of the body are called lower motor neurons. These spinal nerves exit and enter at each vertebral level and communicate with specific areas of the body. The sensory portions of the lower motor neurons carry messages about sensation from the skin and other organs and other parts of the body to the brain. The motor portions of the lower motor neuron send messages from the brain to the various parts of the body to initiate actions such as muscle movement (NSCISC, 2005).

2.2 Spinal cord injury

A SCI occurs when pressure is applied to the spinal cord or to the blood supply which carries oxygen to the spinal cord is disrupted. Severe damage to the spinal cord produces an acute response called spinal shock (which lasts according to both anatomic level and severity of spinal cord damage), flaccid paralysis of the limbs, areflexia and anesthesia to all modalities below the level of the lesion. Tonic and phasic stretch and flexor reflexes are severely reduced or absent, and urinary bladder is tonic and unresponsive to filling. The reflex pathways are subject to supra-spinal control by a number of pathways, particularly by the bulbo-spinal pathway. Return of any spinal reflex activity (e. g. anal reflex) implies

that the spinal shock comes to its end and implies also that the residual motor or sensory deficit will stay as a permanent lesion if no appropriate treatment and handling has been given (Baldissera et al, (1981). Then spasticity and hyperreflexia (which is usually absent immediately after the injury) develops and increases gradually within the next months (Maynard et al, 1990). When the spinal cord is damaged the nerves above the level of the injury continue to work, however, below the level of the injury communication is disrupted which can result in loss of movement, sensation (feeling), bowel and bladder control. The injury may also impact on the person's breathing, sexual function and ability to control body temperature (Burke & Murray, 1975).

2.3 Definition of spinal cord injury

Spinal cord injury is defined as permanent paralysis, to a greater or lesser extent, as a result of damage to the spinal cord. The US Centers for Disease Control (CDC) introduced a clinical definition of SCI:

"... a case of spinal cord injury is defined as the occurrence of an acute, traumatic lesion of neural elements in the spinal canal (spinal cord and cauda equina) resulting in temporary or permanent sensory deficit, motor deficit, or bladder/bowel dysfunction" (Thurman et al, 1995a).

2.4 Classification of spinal cord injury

The spinal cord nerve tissue (as like as the brain tissue) does not fully recover when damaged. Injuries to the spinal cord are often permanent and there is no cure for SCI (Burke & Murray, 1975). The degree of impairment can vary substantially in those who

sustain incomplete injuries. For example, some people with an incomplete injury may regain the ability to walk with or without aids while others may do not regain any functional movements but only have some preserved sensation in their lower limbs.

Complete injuries are those in which all feeling and function are lost below the level of the injury to the spinal cord. It is as if the communication system between the brain and the other parts of the body is completely cut off. Therefore, an individual is said to have a complete spinal cord injury if there is a total and permanent functional disruption of the spinal cord. No sensory or voluntary motor function is present in areas innervated more than three segments below the neurological level of injury (Senelick & Dougherty, 1998).

The two major conditions that result from injury to the spinal cord are paraplegia and quadriplegia (or as it is preferably called today, tetraplegia). Thus spinal cord injuries can result in complete paraplegia or incomplete paraplegia; and complete quadriplegia or incomplete quadriplegia (Lindsey, 1999). A lesion is classified as incomplete if any sensation or voluntary motor function exists more than three segments below the neurological level of injury (Somers, 1992). With an incomplete lesion, the spinal cord is not completely disrupted at the level of injury as some ascending or descending fibers or both remain intact and continue to function. A patient with a complete injury has no feeling or movement below the point of injury while a patient with an incomplete injury has some feeling or movement below the point of injury (Spinal cord injury information network, 2000).

When paralysis (complete or incomplete) involves all four extremities (both the arms and legs) with the injury occurring further up the spinal cord in the cervical and upper regions

of the thoracic section, the condition is considered tetraplegia/quadriplegia. If the injury occurs to the lumbar, thoracic, or sacral sections of the spinal column affecting the lower extremities, the condition is called paraplegia referring to paralysis in the lower part of the body from approximately the waist down (Wood-Dauphinee et al., 2002). There will be little or no feeling (sensation) or movement (motor function) in the lower limbs and the lower part of the trunk (Medical Rehabilitation Research and Training Center in Secondary Complications in Spinal Cord Injury, 1996).

2.5 Spinal cord injury and disability

Most traumas to the spinal cord cause permanent disability in a way of loss of movement and sensation below the level of the injury. The area of the spinal cord that is damaged (level of the lesion) and amount of damage incurred are the two main factors that determine the extent and severity of the injury and consequently the resulted disability. The closer the damage is to the brain, the higher the level of injury. The disability associated with spinal cord injury varies depending on the severity of the injury, the segment of the spinal cord at which the injury occurs, and the nerve fibers that are damaged (CDC, 2002).

2.6 Neurological level of injury

The neurological level of injury is defined as the most caudal level of the spinal cord that exhibits intact sensory and motor functioning (Somers, 1992). In order to determine an individual's neurological level of a spinal cord injury, the clinician test sensation in key areas and strength in key muscles and the left and right sides of the body that are representative of specific cord segments (Somers, 1992).

2.7 Common causes of spinal cord injury

Spinal cord injury is an unexpected injury and can happen to almost anyone. If you drive or ride in a car, play sport, or even take a walk down the street you are at risk. Spinal injury is no respecter of social class, gender, maturity or race.

Hulsebosch in 2002 has stated the most common causes of spinal cord injury as the following:

- Motor vehicle accidents.
- Violence related injuries including gunshot wounds and stab wounds.
- Falls.
- Sports-related injuries.

Diseases, Cancer, infections, arthritis and inflammation of the spinal cord also cause spinal cord injuries (MFMER, 1998-2006).

2.8 Incidence and prevalence

According to the WHO (2001), between 20-40 people per million of population will acquire a spinal injury each year. Epidemiological studies from several countries presented the incidence of SCI. A reliable assessment of the incidence in the Palestine was not yet available. Globally the incidence varies from 9 to 53 spinal cord lesions per million inhabitants per year. In Europe the incidence is generally low (9 to 16 / million/ year) (Biering-Sorensen, Pedersen, and Clausen, 1990). Assessments in 1990 estimated a rate of 30 to 32 new traumatic SCI per million in the USA. It has been estimated that 11,000 spinal cord injuries occur each year in the United States and that approximately 222,000 to 288,000 individuals with SCI are currently living in the United States (NSCID, 2005). 39.4

per million in Japan (Shingu et al., 1990). Apart from sociological and demographic differences the variance is explained by the definition of SCI used in different studies. Most studies concentrate on patients with traumatic SCI. In European studies 25 to 39% of the spinal cord lesions was non-traumatic and characteristics of these patients differ from those with traumatic lesions (Biering-Sorensen et al, 1990). Peaks are found in the younger age groups for traumatic injuries and in the older age groups for non-traumatic lesions. The majority of patients with traumatic injuries are male, whereas non-traumatic lesions are more equally divided over both sexes.

2.8.1 Age at injury

Most of these injuries occur in the range of 16- to 30-year old of age, with an average age of injury at 37.6 years (Go, DeVivo, & Richards, 1995; NSCID, 2005).

2.8.2 Gender

According to the NSCID (2005), since 2000, 79.6 % of the cases are male, with a slight trend toward a decreasing percentage of males, with 81.1% of new injuries among males prior to 1980.

2.8.3 Life expectancy

Life expectancies for individuals with SCI continue to increase, but they are still somewhat below life expectancies for those without SCI (NSCID, 2005). The NSCID (2005) indicates that mortality rates are significantly higher during the first year after injury than

during subsequent years, especially for severely injured individuals. The causes of death that seem to have the greatest contribution to reduced life expectancy for this population are pneumonia, pulmonary emboli, and septicemia (NSCID, 2005).

2.8.4 Other demographics

Educational levels of individuals with SCI tend to be lower than those of the general population, and most people with SCI have never been married at time of injury (51.8%), with the reduced likelihood of getting married after injury (Go, DeVivo & Richards 1995; NSCID, 2005).

2.8.5 Participation and reintegration in work

Reintegration in work, sports and leisure activities are considered to be a subsequent important goal of rehabilitation. Most people with SCI are able to live in their community achieve independence in daily activities after the rehabilitation process. Active involvement in activities and roles is strongly related to health and well-being and a high level of social activities leads to a better quality of life (QOL) (Pentland et al, 1995).

2.9 Impact of spinal cord injury

Spinal cord injury (SCI) is one of the most devastating challenges that a person can face, as it may significantly alter one's physical functioning and independence, social, sexual, and vocational roles, and lifestyle (Middleton & Tate, 2003). Stressful experiences may provoke or exacerbate a wide range of psychological and physical pathologies, including

depression, anxiety, cardiovascular disease and immunologically related disorders (Cohen and Miller, 2001). Paraplegia is considered one of the serious and critical results of spinal cord injury. Due to advances in medical technology and the development of comprehensive treatment centers, SCI patients are able to survive post the acute stage of injury and resume meaningful lives (Yarkony, 1994). However, despite these improvements, remnants of secondary complications, side effects, and difficulties in living with SCI still remain (Yarkony, 1994). It is unfortunate that although SCI is most often associated with sensory loss, many SCI patients experience an increase in pain long after healing of the damaged bone and tissue has taken place. Health problems that often develop secondary to the SCI are a major health issue for people living with SCI. Secondary conditions are negative health outcomes that occur as a direct result of a SCI-related disability. The most common secondary conditions are pressure sores, respiratory complications, urinary tract infections, spasticity, and scoliosis (Meyers et al., 2000).

2.10 Examples of consequences of a spinal cord injury

- Medical consequences: paralysis, spasms, incontinence (bowel and bladder), low blood pressure, pain and skin problems (pressure wounds).
- Psychological consequences: grief, denial, sadness, anxiety, depression and anger.
- Economical consequences: income loss, extra costs for special equipment or clothes that are not refunded by the social security system, architectural re-decorations to fit a wheelchair and other equipment.

(Spinal cord injury information network, 2004)

2.11 Psychological consequences of SCI

Efforts to manage a situation might have various consequences (Elfstrom, 2003). The literature concerning the long-term psychological consequences of SCI show that drug, alcohol and substance use are major risky health behaviors that form part of an unhealthy lifestyle leading to the development of chronic secondary problems among persons with SCI (Steele et al., 1996). Substance usage including tobacco smoking has been found to be positively associated with a risk of cardiovascular, respiratory and urinary tract morbidity in the spinal cord injury population (Davies & McColl, 2002). The prevalence of substance abuse in individuals with SCI is found nearly twice as high as that of community populations (Galvin & Godfrey, 2001).

Sedentary lifestyles have become an increasing area of concern among individuals with spinal cord injuries. There is some indication that youth with SCI report high levels of psychosocial distress and spend more time engaging in sedentary activities (Hogan et al, 2000; Steele et al., 1996). Substance usage and sedentary lifestyle are considered major risky health behaviors that form part of an unhealthy lifestyle that lead to the development of secondary problems (Steele et al., 1996). Health promotion is engaged with personal lifestyles and involves two processes. The first one is to stop negative and unhealthy behaviors (smoking, alcoholism, and sedentary behaviors), and the second one is to start positive healthy behaviors (regular exercise and good dietary) that promote health (Nahas, 2003).). Health promotion stresses the need to enhance each person's commitment to a healthy lifestyle that can prevent secondary disability and promote quality of life (Stuifbergen & Rogers 1997).

The sudden presence of disability can be frightening, frustrating and confusing to the spinal cord injured persons and their families and friends, who naturally wonder how this injury will affect their everyday activities, their jobs, their relationships with others, their dreams and their long-term happiness (Warren et al. 1996). SCI often have psychological consequences, primarily anxiety and depression, which may interfere with rehabilitation possibilities, with adjustment to the impairment and therefore with the possibility of returning to previous familiar social life and work (Scivoletto et al., 1997). In rehabilitation settings Individuals who experience depression tend to have less functional independence and mobility when discharge after long courses of rehabilitation settings. Depressive behavior was also associated with less improvement during rehabilitation, and the occurrence of preventable secondary complications such as pressure sores and urinary tract infections (Herrick et al, 1994b). Anxiety levels were found to be higher in spinal cord injured persons than for a control group during the first year post-injury. Anxiety disorders that may occur in these individuals are social anxiety, social phobia, and post traumatic stress disorder (Richards et al, 2000).

Suicide may occur when quality of life is threatened. Suicide risk is four to five times higher for a spinal cord injured than for able-bodied persons in the same age and sex group. However, the rate of suicide diminishes after the first year post-injury, and decreases greatly after the fifth year (Richards et al, 2000).

2.12 Stress

The experience of stress is universally familiar to people from all backgrounds (Jones & Bright, 2001). Generally, people operate under the assumption that they are worthy, decent

people. This belief supports a healthy self-esteem. Trauma activates negative images of self, such as being helpless, frightened, out of control and needy. These negative self images contribute to a revision of one's self-concept (Janoff- Bulman, 1992). Primarily stress was seen as a physical trauma to which humans respond, but recently it has been linked to physical events and appraisal of the events which is a cognitive phenomenon (Jones & Bright, 2001).

Stress is defined in different ways by researchers. A commonly used functional definition is provided by Lazarus and Folkman (1984) who identify psychological stress as a "particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being". Stress is defined as a physiological response to a perceived threat (Pinel, 2003). Aldwin in 1994 defined stress as an internal state of the person (emotional or physiological reaction), an external event (stressor) or an experience that results from an interaction between the person and their environment (especially those which tax the individual's coping resources). From this perspective, certain environmental situations can create stress. Stress by definition occurs only when demands placed upon an individual exceed or tax the individual's coping resources, and later, in order to avoid confusion of multi-definitions, Jones and Bright (2001) maintain that the term stress "...should be used as an umbrella term that includes a range of potentially demanding environmental stimuli and responses and other variables, such as personality factors, that influence the relationship between the two".

Stress is implicated in psychological areas. Cognitively: well-being (Ryff, 1989), depression, and anxiety (Arthur, 1998a). Behaviorally: work performance (Jones & Bright, 2001), and health risk behaviors (Roskies, 1991). Stress has the ability to impact the

development of a variety of health problems including the common cold and Human Immunodeficiency Virus infection (Cohen et al., 1998). Many problems, including high blood pressure, heart attack, peptic ulcers, neck pain, certain types of asthma, excessive obesity due to abnormal dietary patterns. Moreover, stress can worsen existing medical conditions such as asthma, diabetes, and depression and heart disease (Jones & Bright, 2001).

People vary greatly from one person to another in the levels of stress they acquire. If stress is not managed properly, it can damage performance. It is known that not everyone who experiences a traumatic event is liable to develop psychological distress. It should be known that various personal properties and certain psychosocial factors determine who may, and who may not develop psychological distress. Some experience of stress and anxiety is normal and can actually be beneficial and produce alertness and interest. Even mild stress is requested in order to produce motivation in work and life. Prolonged stress and anxiety may lead to physical illnesses (Maslach & Jackson, 1993).

2.13 Stress and coping

In simple words, coping is the way in which people handle stress. In essence, coping is a response to stress. It relates to the way people think (cognitions), the emotions they experience and their behavior. In addition, the way people cope can alter their emotional response (Monat & Lazarus, 1991). The function of coping is to reduce stress. It is a dynamic response to the stress creating situation (Kahana et al., 1988).

Costa, Somerfield and McCrae in 1996 clarified that when any person is faced with any situation, he first appraises what it means to him. In many circumstances, people perceive a stressful event as something that is upsetting or which is going to harm or hurt them, but some people may perceive the same situation as a challenge. For example, jumping with a parachute out of an airplane would be very stressful for some people, but would be a recreational activity for others. Man automatically engages in a process of coping as soon as he evaluates or appraises an event as an encounter is going to be harmful or threatening. The way individuals frame their goals affect their thoughts, actions and feelings and therefore also their strategy use, well-being and performance (Costa et al, 1996).

A stress response occurs when the individual realizes that he faces a threat and also believes that he/she is not able to cope with that threat. This process starts when a stressor is present challenge to an individual, then the individual makes an assessment of the stressor, then he chooses a way to deal with it. In general, this process is universally experienced, but specific patterns are manifested in unique ways for different types of people under different conditions. Appraisals are determined simultaneously by perceiving environmental demands and personal resources. They can change over time due to coping effectiveness, altered requirements, or improvements in personal abilities (Compas, 1987).

Coping with stressful situations involves the use of cognitive and behavioral strategies aimed at reducing stress levels (Compas, 1987). The cognitive-relationship theory of stress emphasizes the continuous, reciprocal nature of the interaction between the person and the environment. Cognitive-relational theory defines stress as a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being (Folkman, 1984). Thus, stress

always involves cognitive appraisals about the seriousness of the demand and about the resources the individual has to cope with that demand (Lazarus & Folkman, 1984).

2.14 Adjustment

In the last three decades, many rehabilitation professionals have focused research and clinical attention on describing the process of adjustment to disability generally (Lazarus & Folkman, 1991) and spinal cord injury specifically (Chan, 2000). Interest has been increased in the relationship between coping strategies and adaptation to chronic illness and disability (Livneh, 1999). A number of models of coping and coping strategies have been developed in the literature and each is based on differing underlying assumptions which lead to different understandings of the process.

Adaptation is often the term used in the psychological literature but is in essence used synonymously with adjustment. Adjustment is conceptualized variously as a process of change or adaptation or conversely as the outcome of coping. Adjustment to disability implies reconstruction of one's life and efforts to resume familiar and community roles (Livneh & Antonak, 1997).

Adjustment following a disability is defined by Trieschmann in 1988 as the process of restoring balance among the psychosocial, biological-organic, and environmental factors in one's life. If the imbalance cannot be corrected by curing the problems in the biological-organic facets of the system, then a new balance is achieved by making accommodations in one's psychosocial and environmental resources. Social support and community acceptance can also influence the inherent balance and well being of individuals with spinal cord injury. Social support has been consistently identified as a moderator in stressful situations

(Livneh & Antonak, 1997). Social support has been identified in a large number of studies of spinal injured populations as a variable that is important in facilitating positive outcomes (Crisp, 1992a; Decker & Schulz, 1985; Kerr & Thompson, 1972; Krause & Crewe, 1990; Schultz & Decker, 1985). Although social support is known to act as a buffer against anxiety and depression amongst the spinal injury population (Kennedy et al., 1995) it has also been found to be a significant variable in the adjustment to disability. Thus, adjustment is more than just coping with psychological stress (Lazarus & Folkman, 1991). It involves the restoration of equilibrium in all spheres of one's life (Trieschmann, 1988).

2.15 Adjustment problems with SCI

Because of the traumatic and distressing nature of an SCI, individuals with spinal cord injury may experience difficulties in adjusting and coping with their new lifestyle after SCI. Physical complications and other psychological disorders like depression and other mood disorders such as anxiety may occur following SCI. Some personal factors that may contribute to depression in people with SCI are pre-morbid histories of maladjustment, psychological disorders, and use of alcohol (Tate, 1993). Those spinal cord injured persons tend to be single (Go, DeVivo, & Richards, 1995), and therefore, they may face difficulties in adjustment.

There is a variety of factors relating to the experience of spinal cord injury potentially have an effect on an individual's psychological adjustment. In addition, the resultant marked changes in body image after a SCI may cause significant psychological adjustment problems to some individuals (North, 1999).

2.16 Stress, adjustment and coping

Coping and stress are two interconnected concepts related to adjustment following SCI.

Many of the principles related to coping have emerged as the study of stress has progressed.

Major stress or life crises cause people to draw upon adaptive resources (coping strategies) of which they may have been previously unaware (Lazarus & Folkman, 1984). The onset of a sudden severe disabling condition such as a SCI results in deep excitement and agitation in a person's life and social situation (stress). The stresses encountered can be considerable, especially when the uncertainties created by SCI are taken into account. Adaptation to these life changes creates further stress by changing or potentially threatening to change many aspects of social roles, and functional abilities (Garske & Turpin, 1998). A critical factor in the relationship between stressful life events that created by a spinal cord injury and the successful adjustment is coping. Holahan, Moos and Schaefer in the year of 1996 have stated that: "Coping is a stabilizing factor that can help individuals maintain psychosocial adaptation during stressful periods; it encompasses cognitive and behavioral efforts to reduce or eliminate stressful conditions and associated emotional distress" (Holahan et al, 1996).

2.17 The concept of coping

When we encounter a difficult or stressful life situation, we react in various ways trying to make the situation better or to decrease the stress and difficult feelings that the situation has created. Our reactions to these events are part of a constant process and change over time.

We do things to adopt, then evaluate the effects of our efforts, experience the consequences regardless our efforts are helpful or not helpful, and then re-evaluate the situation and, if

necessary, try to adopt in new ways. All of these reactions may be called coping (Lazarus & Folkman, 1984).

The concept of coping has been important in psychology for well over the last few decades. The qualitative literature on coping with trauma is among the most fascinating reading in psychology. Bettelheim (1943) engaged in a personal experiences and research in Nazi concentration camps. He described how the individual's experience, the individual differences in appraisal changed psychological reactions and contributed to survival in this extreme environment. His descriptions about coping and defense mechanisms predicted much of the current literature on coping with trauma.

For most people, the expression “coping” means dealing with problems in a successful way. Coping needs to be distinguished from adaptation which can be conceptualized as the outcome of coping. In a large part of the research literature, coping basically means efforts to enhance adaptation (Lazarus, 1993). Coping can be seen as "how to handle or overcome unusual situations and/or situations of crisis and transitions" (Hovgaard, 1998). Aarsaether and Baerenholdt (1998) say that the concept implies "an active, struggling and innovative response to a certain form of challenge". However, coping as a psychological concept is in itself neither positive nor negative but it tends to be viewed as a form of emotional regulation and problem solving (Costa Jr et al, 1996).

2.18 Definitions of Coping

One of the problems encountered in the literature is the multitude of definitions related to the concept of coping (Lazarus & Folkman, 1984a). Coping is primarily a psychological

concept and there were many definitions all appear to share a basic thought that coping is a struggle with demands, conflicts and emotions. Although there is no single, universally accepted definition of coping, there appears to be an emerging consensus among theoreticians, clinicians and researchers alike that coping styles constitute an important component of the individual's adaptation to the impact of different stressors, including extreme psychological trauma (Foa et al, 1989). In his person-environment interaction model, Lewin in 1936 explained that the relation between the person and environment develops as a result of the appraisal processes of one's resources and the situation (Lewin, 1936). This relationship involves the constant state of action and reaction between the individual and the environment. Thus, coping is a dynamic process that is dependent on both the demands of the environment and the characteristics of the individual.

Folkman and Moskowitz in 2004 define coping as the cognitive and affective responses used by the individual to manage stress (Folkman & Moskowitz, 2004). In 1979, Cohen and Lazarus defined coping as the action-oriented and intrapsychic efforts to manage environments and internal demands, and conflicts among them, which tax or exceed a person's resources (Cohen & Lazarus, 1979). Later, Lazarus and Folkman (1984a) revised this definition to be the constantly changing cognitive and behavioral effects to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person, or blocking their path towards desired goals (Carver et al, 1992). Within this definition is the inclusion of both defensive and coping strategies.

Coping is a goal-directed process in which the individual orients thoughts and behaviors toward the goals of resolving the source of stress and managing emotional reactions to stress (Lazarus, 1993). This definition is part of a broader motivational model of

psychological stress and emotion that emphasizes cognitive appraisals in determining what is stressful to the individual. Fleming, Baum and others in 1984 defined coping as the processes individuals use to modify adverse aspects of their environment as well as to minimize internal threat induced by stress (Baum et al, 1984).

Folkman and Lazarus (1991) defining coping as a process reached a different conclusion. According to them, emotion-focused coping strategies (attempts to moderate the emotional response to stressful events) may promote well-being temporarily, but are not successful in the long run because they do not improve the problematic situation. Therefore, some researchers defined coping as the changing thoughts and behaviors that people use to manage distress (emotion-focused coping) and the problem underlying the distress (problem-focused coping) in the context of a specific stressful encounter or situation (Moos & Schaefer, 1993).

Individuals cope differently depending on the nature of the chronic illness or condition they are dealing with and depending on how the individual evaluates the threat imposed upon him or her.

Pargament (1997) defined coping as a search for significance in times of stress. Further, Pargament stated that coping with stressful situations or life experiences "may involve religious thoughts, practices, feelings, relationships, and objects of significance" (Pargament, 1997). Religious coping influences the orientation a person takes to interpret the situation one is dealing with. Positive religious coping has been found to be related to better adjustment, higher levels of competence, and mental health benefits (Pargament, 1997). According to Graham, Furr, Flowers, and Burke (2001), "religious coping offers meaning to life, provides the individual with a greater sense of control over his situation, and builds self-esteem" (Graham et al., 2001). More recent, Thabet, Tishler, and Vostanis

in a study of the coping strategies of adolescent in Gaza Strip found that acceptance of faith in God was the most commonly coping strategy used (Thabet et al, 2004).

Compas (1998) defines coping as "conscious volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances" (Compas, 1998). These regulatory processes both draw on and are constrained by the biological, cognitive, social, and emotional development of the individual. An individual's developmental level both participates in the resources of coping and limits the types of coping responses of the individual.

2.19 Dimensions of coping

Coping researchers have tended to group coping responses into coping categories or styles. Lazarus and Folkman (1984) proposed two main types of coping, problem-focused coping and emotion-focused coping. Problem-focused coping involves attempting to control or alter the sources of the stress. Emotion-focused coping involves efforts to manage emotional responses to stress. Lazarus (2000) emphasized that although problem- and emotion-focused coping are conceptually distinguishable, they should not be considered independent and usually occur together.

Some researchers see emotion-focused coping and avoidance as separate constructs (Endler & Parker, 1994). Problem-focused coping is usually seen as more effective in the long-term, and it is associated with less depression (Vitaliano et al., 1990). Emotion-focused coping and avoidance, on the other hand, are probably less functional, as they are associated with greater psychological distress and depression (Endler and Parker, 1990).

Other research suggests that less problem-focused and more emotion-focused coping may be associated with psychological distress following traumatic stressors (Solomon et al, 1989), although the research findings on coping are difficult to draw together due to the wide variety of different operational definitions of coping that have been employed. For example, emotion-focused coping in the Solomon, Regier and Burk, (1989) study included aspects of avoidance as well as potentially positive aspects such as positive reappraisal and finding meaning, which would be expected to be associated with less psychological distress.

Although there is convincing evidence for direct association between external locus of control and psychological distress in survivors of traumatic events, it might also be hypothesized that the relationship between locus of control and psychological distress is moderated by the degree of exposure to traumatic incident-related stressors. Gianakos (2002) classifies coping behavior that includes control-related coping and escape-related coping.

2.20 Coping strategies

Why people differ so greatly in their responses to the same significant life events and how these differing responses affect overall adjustment outcomes? Understanding of the answers for these queries is considered one of the main reasons for studying coping strategies (Gallagher & MacLachlan, 1999).

Coping strategies are conscious efforts to manage the stress by thoughts or actions and not to be confused with the outcomes of coping. Stress and coping theory propose that

individuals, upon perceiving a situation as stressful, evaluate and implement coping strategies. Thus, coping strategies serve to reduce psychological and psychosomatic symptoms of distress (Folkman & Lazarus, 1984; Lazarus, 1993). Appraisal theory has argued that emotions arise from a person's appraisal of the event (Scherer et al, 2001). Then, people employ a wide range of coping strategies in order to deal with the resulting emotions (Lazarus, 1999). These various strategies can be characterized into several broad classes. The choice of a coping strategy is preceded by two cognitive processes (Lazarus & Folkman, 1987). The first cognitive process is an appraisal of what is at stake in the particular situation as if the situation involves a challenge, a threat of harm, or a harm that is already experienced. The second cognitive process has to do with the individual's perceived options for coping or, in other words, what can be done about the situation? This means that it is not the stressor alone that leads to a serious outcome, but the way in which a person perceives and responds to it (Horesh et al., 1996). Thus, these two cognitive appraisal processes are influenced by the personality traits of the individual and by environmental demands, and they mediate the type of coping strategy that is employed. Together with coping, the appraisal processes are also proposed to mediate emotional reactions.

Coping strategies are usually defined as: problem-oriented, perception-oriented, and emotion-oriented. Other authors (Malia, Powell, and Torode, 1995) use an alternative classification: problem-focused, emotion-focused, avoidance and wishful thinking. When applied to chronic conditions, coping behavior should be classified in a different manner: cognitive reframing, emotional respite, and direct assistance (Wineman et al, 1994).

There are two types of appraisal as conceptualized by Folkman and Lazarus are performed by people in stressful situations before deciding which coping method is to be used (Lazarus, 1999; Folkman & Lazarus, 1991; Lazarus & Folkman, 1984). Theory of stress and coping by Lazarus (1966) emphasizes these two types of appraisal in the coping process. The first one is a primary appraisal which is concerned with assessing the degree of threat to the individual. The individual here perceives whether an event is harmful or threatening. The four primary appraisals are benign, threat, harm/loss, challenge. These are influenced both by environmental demands and individual beliefs, values, and commitments (Lazarus & Folkman, 1984). The second type of appraisal is secondary appraisal in which the person asks about what can he does about the situation. Secondary appraisal involves examination of the available coping resources and involves considering what the individual can do to cope with the situation. The strategy chosen is thought to be situation specific which means that different coping strategies are employed according to the context of the stressor (Lazarus, 1966).

Coping strategies refer to the specific efforts, both behavioral and psychological, that people employ to master, tolerate, reduce, or minimize stressful events. Lazarus and Folkman (1984) define eight separate coping strategies that they believe individuals employ in stressful situations. These are confrontation; seeking social support; planned problem-solving; self-control; accepting responsibility; distancing; positive reappraisal; and escape/avoidance (wishful thinking). These separate into two types of coping strategies. The first type is problem-solving strategies which are efforts to do something active to alleviate stressful circumstances. The second type is emotion-focused coping strategies which involves efforts to regulate the emotional consequences of stressful or potentially stressful events. In problem solving, removal of or getting around the stressor; the problem is defined, alternatives are considered and the best strategy for that situation is selected and

put into action. Problem-focused strategies include taking action (actively addressing the stressor), planning and seeking instrumental support while emotion focused coping involves the use of mainly cognitive processes that reduce perceived suffering. In general, people employ problem-solving strategies to situations where there may be some degree of control. Emotion-focused coping strategies include suppression, seeking emotional support, restraint, acceptance, turn to religion, denial, and disengagement. Emotion focused strategies tend to be used in situations that they have little power over such as when experiencing physical health problems (Lazarus & Folkman, 1984).

Emotion-focused is defined as efforts to change the way the situation is appraised or the meaning of the situation, while problem-focused is defined as efforts to solve the problem that caused stress by acting on the environment (Lazarus, 1993). Emotion-focused coping consists of the strategies employed to regulate the intense feelings aroused by a stressor. Styles of emotion-focused coping include: distancing, escape-avoidance, self-control, and accepting responsibility (Bird & Melville, 1994). Problem-focused coping consists of the efforts activated to alter, deflect, or in some way manage the stressors itself through direct action. Styles of problem-focused coping include: confronting and problem solving (Bird & Melville, 1994). Within each type of coping strategy, there are several subtypes. Problem-focused coping includes cognitions and behaviors that are directed at analyzing and solving a problem. It may include "chunking" or breaking a problem into more manageable pieces, seeking information, and considering alternatives, as well as direct action. Sometimes delaying or suppressing action is seen as a separate problem-focused strategy. Delaying action or decisions may be used in circumstances in which people await more information, and suppressing action may be useful in avoiding specific actions that may make a problem worse. Emotion-focused coping also involves different sub-types.

Avoidance and withdrawal are different than expressing emotion. Suppression, setting one's emotions aside in the service of a problem-solving effort, is clearly different from the use of substances to regulate emotion. Avoidance, withdrawal, and substance use are usually associated with poor outcomes (Aldwin & Revenson, 1987). Lazarus (2000) distinguishes this approach from traditional conceptualizations of general problem-solving techniques. While problem-solving involves objective analysis and action to the external world, problem-focused coping includes both outward and subjective, inward-focused strategies.

The degree to which each type of coping is used depends, for the most part, on the appraised stressfulness of the situation (Bird & Melville, 1994). Buell & Elliot (1979) suggest a link between stress related illnesses and coping patterns; they believe stress related illnesses are interrelated because all stem from the ability or inability to cope with environmental stressors (Buell & Elliot, 1979). Kleiber, Montgomery and Craft-Rosenberg in 1995 comment that problem-focused coping consists of efforts to change the actual circumstances of an adaptational encounter, whereas emotion-focused coping involves cognitive activities that do not alter the relationship with the environment but do alter the way in which the person-environment relationship is perceived (Kleiber et al, 1995).

When most stressful events occur, emotion-focused and problem-focused coping are used in combination. In addition to, or subsumed under, these principle categories is a broad range of coping strategies (Carver et al, 1989). For instance, emotion-focused coping may comprise emotional expression, emotional containment, blame, withdrawal, denial or passive resignation. Further, individuals may employ cognitive restructuring (re-evaluating the relation between the person and the threat), positive activity (constructive or

recreational activities), social support seeking, religion, humor and/or rumination (Endler & Parker, 1994). Finally, a given strategy may serve different functions. Social support seeking, for instance, may provide a distraction from one's problems, or be a component of problem-solving, or an outlet for emotional expression (Endler & Parker, 1994).

Although coping is most often categorized as either problem focused or emotion focused, other types of coping have also been identified in the literature. These other types include:

- Instrumental coping: performing specific tasks (Zarit et al, 1986).
- Appraisal focused coping: identification of the cause of the problem, attending to one aspect of the problem at a time, drawing on relevant past experiences, and rehearsing responses to the situation (Moos & Billings, 1982).
- Relationship focused coping: maintaining and regulating social relationships (Kramer, 1993).
- Cognitive focused coping: reframing the situation in more positive terms and acceptance of the situation (Ryff, 1989).

Active coping strategies are either behavioral or psychological responses designed to change the nature of the stressor itself or how one thinks about it, whereas avoidant coping strategies lead people into activities (such as alcohol use) or mental states (such as withdrawal) that keep them from directly addressing stressful events. Generally speaking, active coping strategies, whether behavioral or emotional, are thought to be better ways to deal with stressful events, and avoidant coping strategies appear to be a psychological risk factor or marker for adverse responses to stressful life events (Holahan & Moos, 1987).

Billings and Moos (1981) identified three methods of coping: a) active cognitive, understood as the management of assessing potentially stressful events; b) active-

behavioral, as the observable efforts aimed at managing a stressful situation; c) avoidance, as refusal to face a problematic or stressful situation (Billings & Moos, 1981). An adolescent's tendency to cope by avoidance rather than by problem solving is not only determined by the type of stressful event, but also by the perception of the availability of social support in his or her relationship with significant others (Spaccarelli, 1994).

It must be noted that Lazarus and Folkman believe that each strategy has its own merit and none is better than the other. If a strategy is appropriate for the individual and if there are no ill effects later then the coping strategy is an appropriate tool in stress reduction (Folkman and Lazarus, 1985). Frydenberg and Lewis (2005) point out that coping processes are not intrinsically good or bad and should be considered within the context in which they occur, they argue that, in general, coping strategies can be considered productive or non-productive. However, some believe that emotion (especially avoidant) coping strategies are not as efficient as problem solving ones since people who do not deal with their stressors successfully are more likely to suffer ill health (Holahan & Moos, 1987). There is evidence for the belief that problem-solving strategies are better than emotion strategies for coping effectively (Roy-Bryne et al., 1992).

Stressful appraisals include whether the situation involves harm threat or loss, and are a function of both the person (beliefs and preferences), and the situation (it's controllability). When the stressor is perceived as controllable, then problem-focused strategies prevail while appraising it as uncontrollable and threatening is related to the use of emotion-focused and distancing coping strategies. Problem-focused coping has been generally found to be more effective than emotion focused coping in alleviating stress reactions (Mikulincer et al, 1993). However, when coping is seen as a process that changes

according to the nature of the situation and time elapsed since the trauma, using flexibly alternating strategies may be associated with better adjustment (Lazarus & Folkman, 1984). Folkman and Lazarus (1991) further suggested that emotion-coping strategies may promote well-being temporarily, but they are not successful in the long run because they do not improve the problematic situation (Folkman & Lazarus, 1991). In contrast, Suls and Fletcher (1985) concluded in their review that a person's general, stable, avoidant style (activity oriented away from the threat) was superior at alleviating stress in the short term, but non-avoidant styles were better in the long run (Suls & Fletcher, 1985).

2.21 Coping styles

The conception of coping styles borrowed some of its language from psychoanalysis but focused more on how people process information (Byrne, 1964). Many studies do not distinguish between styles and strategies, as this distinction often rests primarily in the instructions on the instrument rather than the specific items. Lazarus (1993) examined whether researchers should assess coping styles or coping strategies. Coping styles are thought to be relatively stable characteristics of individuals based upon personality traits. Coping styles aim to facilitate a sense of resourcefulness in the face of adversity, and can serve to protect self-esteem which can become particularly vulnerable in the face of a severe illness (Godschalx, 1989). Coping styles reflect the tendency to respond in a predictable manner when confronted with stress either across situations, or over time within a given situation and have been shown to be associated with better outcomes in a variety of situations (Aldwin, 1999). However, some coping styles may either be adaptive or maladaptive in reducing individual stress levels. The use of adaptive styles of coping with

environmental stress has been identified as being a moderating variable, or a buffer, to the potential harmful consequences of stress.

Endler and Parker (1990) have described three different styles of coping with stress:

- a) Task-oriented coping which involves using a problem-solving approach to eliminate stressors. It is considered a good adaptive way to cope with stress. Examples are: using a schedule for stressful demands and using a time management skills for demand priorities.
- b) Avoidance-oriented coping style which involves turning away from the stressors by ignoring it, psychologically distancing oneself from it, or engaging in another task. This style is considered not effective in eliminating stress because it does not reduce stress actively.
- c) Emotion-oriented coping has been defined by two different ways. The first definition refers to the use of efforts aimed at regulating emotional states that are associated with the stress or are the result of it (Leventhal et al, 1993). By this definition, emotion-oriented coping is considered an adaptive style of coping and could be represented by the use of positive self-talk or relaxation. The second definition is describing emotion-oriented coping by Endler and Parker (1990) as self-oriented but its emotional reaction may actually increase stress levels because they fail to reduce stress and instead they may heighten the negative emotions of the stress experience. Examples of these maladaptive reactions are: getting angry, blaming oneself for being too emotional, worrying about what one is going to do, or getting angry.

2.22 Conclusion

As the individual is considered a member of a bigger community which belongs to a wider nation, the nation has its own characteristics and properties that affect the individual in consequence, his personal characteristics, and the way he copes in the face of stress encounters. These characteristics and properties of the nation are factors include culture, religion, beliefs, customs and traditions, history, civilization, demography, outer challenges, general circumstances, national political and economical status... etc. If the nation, for instance, engaged in a war of independence, the individual in this example (as he is a member of his nation) copes with his stress encounter (for example, a disability yielding by the secret war of independence) better than if his disability yielding by another cause like falling down for instance. In the foremost example the disability is considered a part of the price must be paid for liberty and independence, self-esteem would be high, and the disabled person may feel proud on the ground that he is considered brave and national hero, thereby he may use positive and effective types of coping strategies consequently. In the latest example, the disability is considered a catastrophic loss, self-esteem may be low, shame and stigma may be experienced, and the disabled person may use negative types of coping strategies and so forth with the remainder factors. Therefore, we believe that in addition to the personal factors affecting coping, there are factors relating to the nation affect the way in which the individual copes. More research must be performed about the impact of the national factors on the individual and how this will affect his way of coping with stress encounters.

Chapter 3

Conceptual framework of coping strategies among paraplegic persons in Gaza Strip.

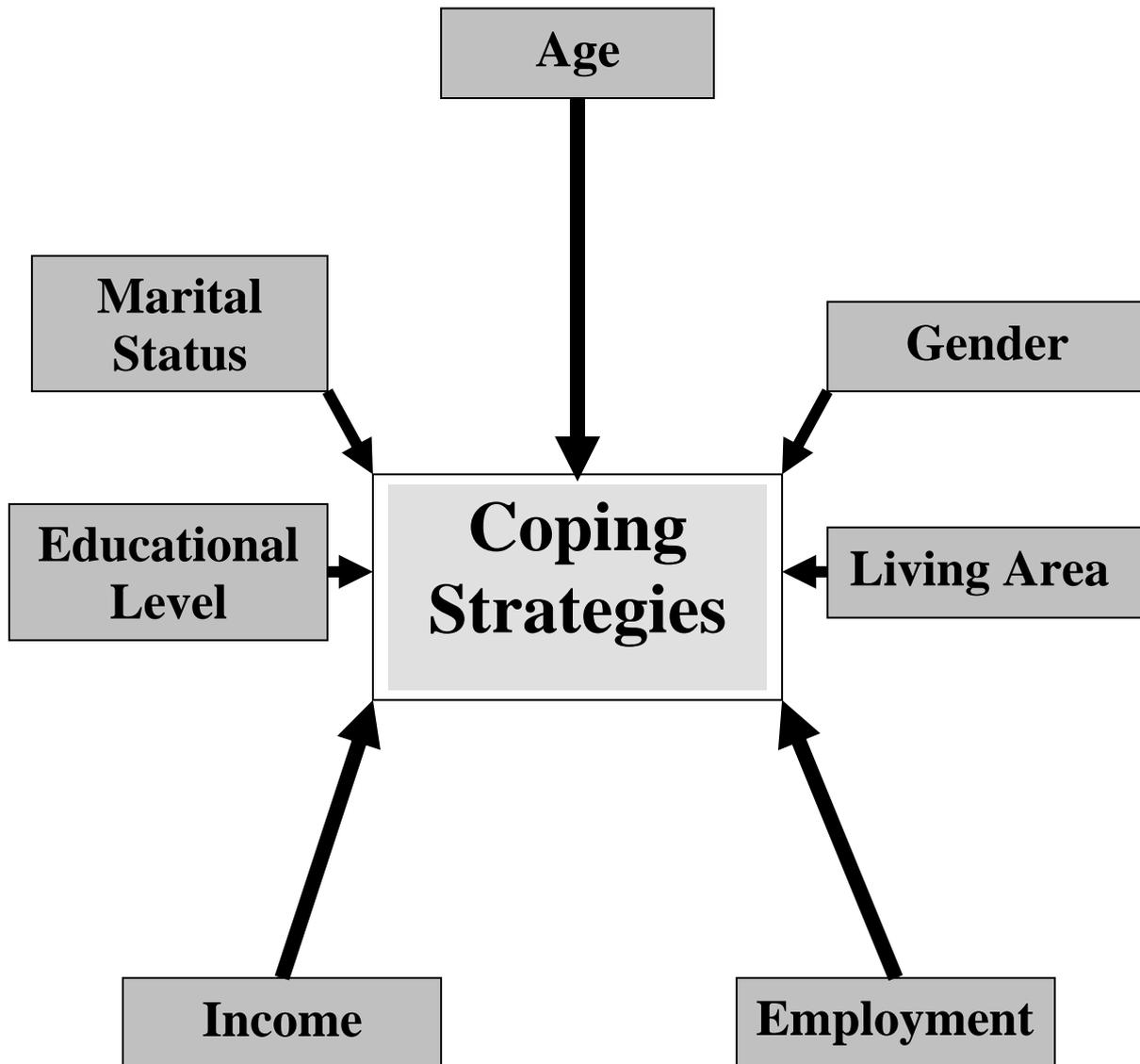


Figure 3.1: Conceptual framework of coping strategies in relating to socio-demographic factors.

3.1 Introduction

Spinal cord injured people are not alike. They are not a homogeneous group. Each person responds to his or her spinal cord injury in a way that is unique to him or her and then deal with his/her condition in individualized ways that are unique to that individual. There are many factors, including age, sex, severity, marital status, educational level, duration of injury, emotional response, social support, coping styles and self-perception, that influence the acceptance of disability in SCI persons (Hampton, 2001). The independent variables of this study are factors can affect the dependent coping strategies among paraplegic persons in Gaza Strip. Those factors were identified after we had conducted literature review about coping strategies with spinal cord injury. Those factors are age, gender, address, marital status, education, occupation, financial status and other demographic and economical factors.

3.2 Age

The issue of age is complicated by physical and mental health conditions that significantly influence stress responses (Ollenburger & Tobin, 1998). Research indicates that old people maintain high levels of mastery in the face of difficult life circumstances (Rodin, 1986). Other researches find that life events may be deemed less stressful in later life (Aldwin, 1991). Folkman and □ Lazarus, (1980) claim that older people often cope with both bereavement and chronic health problems, it is usually assumed that they will be more likely to appraise problems as involving harm or loss (Folkman, □ Lazarus, 1980; Rodin, 1986).

Age at onset of injury is consistently identified as a factor influencing adjustment and coping outcomes (Decker & Schulz, 1985; DeVivo et al., 1990). Younger people seem to be better able to accept their disability. Woodrich and Boland Patterson explained this as perhaps because youth people are more flexible in their attitude to life and more open to new ways of doing things (Woodrich & Boland Patterson, 1983). Dunn (1977) reported that older patients reported more discomfort in social situations than their younger counterparts (Dunn, 1977). As it was mentioned in chapter 1, about 49% of the disabled persons found were less than or equal to 16 years old, and 50.9% were 17 years old and above. Average age of the disabled was 30 years, where the median age of the disabled is between 16-17 years. This means that a high percentage of the disabled persons in Gaza Strip were young people which may help them (according to literature) to be better able to accept their disability and consequently to better coping.

Coping for older patients may also be hampered by a much greater risk of medical complications or pre-existing medical conditions (DeVivo et al., 1990). Judd, Burrows, and Brown (1986) reported in their study that nearly half of the hospital sample of spinal cord injured persons with clinically diagnosed depression were older than 64 years. Crisp (1992a) has a different opinion as he looks at longer term adjustment departs from these findings and reported that age was not found to be related to adjustment (Crisp, 1992a).

3.3 Gender

Gender is an important dimension of psychology studies. Research has demonstrated that women suffer higher levels of stress and anxiety after trauma than do men. In a review of the literature, Halligan and Yehuda (2000) showed that the prevalence of PTSD is almost

twice as high in women as in men, especially when associated with traumatic events such as SCI. However, gender has been shown to be a significant factor in predicting stress levels, with women exhibiting higher stress responses than men (Tobin & Ollenburger 1994).

Lowenthal, Thurnher, and Chiriboga (1975) have done some research on the effect of gender, and coping strategies. They reached the conclusion that social roles corresponding to male and female probably change, and become more similar when people reach middle age; men become more dependent and women more aggressive (Lowenthal et al, 1975).

3.4 Living area

Literatures involving living area, seem to be very seldom, but if we consider social and cultural characteristics are norms indicate the living area, women experience heightened risk exposures as a result of various social and cultural norms, including gender inequity and overall social roles (Tapsell et al. 2002). Green, Pratt, and Grigsby, (1984) found that being able to provide one's own transport was positively related to higher self-concept. Community access, fluency of transportation and accessibility may also impact community integration for people with disabilities (Harrison & Kuric, 1989). This may be linked with the financial resources to purchase greater accessibility. Causal relationships have not been established.

Management of the individual with spinal cord injury needs to take in to account the individual's beliefs and cultural context (Saravanan, 2001).

3.5 Marital Status

Marital status has a great deal with coping strategies among spinal cord injury persons. Chan, Lee, and Lieh-Mak (2000) found that the findings about the adjustment outcomes and coping styles of persons with SCI and their spouses indicate that they are not passive victims and a similar injury may produce different outcomes in different individuals (Chan et al, 2000).

Some studies show that most people with SCI have never been married at time of injury, with the reduced likelihood of getting married after injury (Go, DeVivo & Richards 1995; NSCID, 2005). DeVivo and Fine (1985) point that spinal cord injury persons are less likely to be married and more likely to be divorced (DeVivo & Fine, 1985). The marriage rate of people with SCI is lower than the general population but the factors that influence marriage rate may differ from what is commonly assumed. Comparing with those with post-injury marriage, persons with SCI with pre-injury marriage are more depressed. Rehabilitation plans should put this in consideration to help them release the stress and to prevent them from developing clinically significant mental disorders (Chan, 2000). Spouses may be the most important element in successful rehabilitation and long-term home care for people with spinal cord injuries. Holicky and Charlifue, (1999) conclude that married individuals having less depression, greater life satisfaction and psychological well-being, and having better perceived quality of life.

Marital status has been reported to an important predictor of adjustment outcomes (Alfred et al, 1987; DeJong et al, 1984). Being married is related to being employed (Hess et al,

2000), enhanced quality of life outcomes (Westgren & Levi, 1998) and more independent living arrangements (DeJong et al, 1984).

Urey and Henggeler, (1987) examined marital characteristics of couples who are coping successfully with SCI versus those who are not and the relationship of positive marital adjustment in SCI couples as compared with positive adjustment among normal couples. There was a significant main effect for marital satisfaction, and more negative communications during conflict resolution tasks (Urey & Henggeler, 1987). Although the results do not indicate that substantive differences exist in quantitative and qualitative aspects of marital relations between SCI and able bodied couples, several trends were observed which suggest the need for further research.

3.6 Educational Level

Education is an important factor affecting coping strategies with spinal cord injured persons. Generally, education is considered one of some other elements consisting socio-demographic factors (e.g. education, income, occupation ...etc.). Educational level may be a significant factor in the coping process. Those with lower levels of education are hospitalized more frequently for medical complications than those with higher levels of education (Davidoff et al, 1990). Spinal cord injured persons with higher levels of education are consistently identified as being better adjusted (Alfred et al, 1987; Decker & Schulz, 1985). Higher educational levels are predictors of successful employment outcomes (DeVivo & Richards, 1992; Hess et al., 2000; Noreau et al., 1999). Educational levels of individuals with SCI tend to be lower than those of the general population (Go et al, 1995) and this may affect how they cope with their disabilities.

3.7 Occupation

The findings of many studies from the health and social sciences literature provide moderate to strong evidence that occupation has an important influence on health and well-being. Spinal cord injured persons who were in paid employment view their disability with greater acceptance and report greater satisfaction with their quality of life (Decker & Schulz, 1985; Krause & Crewe, 1990). Environmental accessibility (DeJong et al, 1984; Forrest & Gombas, 1995; Trieschmann, 1988) and personal mobility/ transportation results in better adjustment outcomes (DeJong et al., 1984; Harrison & Kuric, 1989).

Individuals unemployed or with none-occupation at the time of injury were significantly more likely to report pain interference (Putzke et al, 2000). About 80.69% of the 2,745 disabled aged above 18 years were unemployed. This may indicate the great impact of the unemployment factor upon types of coping used by disabled persons in Gaza Strip.

Employed women and women with occupation have lower suicide mortality rates than women who are not employed or with occupation, regardless of age and marital status (Cummings et al, 1975). However, Chase and King (1990) suggest that employment or occupation is less important in coping and increasing life satisfaction for persons with SCI than previously believed.

3.8 Income

The income factor is an important factor affecting coping with paraplegia as a stressor event. Those with more financial resources have a wide range of choices available to them and therefore may perceive greater control over their lives. Financial security was

identified in a number of studies as being a major factor influencing adjustment outcomes (Kerr & Thompson, 1972; Krause & Crewe, 1990). A study of Kerr and Thompson in 1972 reveal that low income with severely disabled individuals is an indication that adjustment difficulties may be experienced (Kerr & Thompson, 1972).

3.9 Conclusion

Many factors may impact on how the person copes with his/her spinal cord injury. These include the disability itself, the intra-person characteristics, the environment, available resources, and the culture/society as a whole. These variables further interact with each other (Garske & Turpin, 1998). Socio-economic status has been an important predictor of stress with lower levels of education and income correlating with high risk factors. The relationship is complex because of the association of gender and age with economic factors (Halligan and Yehuda 2000). Krause, Kemp, and Coker (2000) investigate the relation among aging, gender, ethnicity, socioeconomic indicators, and depressive symptoms after spinal cord injury. Symptoms of depression are highly prevalent after SCI and are related to aging, gender or ethnicity, and socioeconomic status indicators (education and income) (Krause et al, 2000). Further investigation into the relationships between these variables and coping with spinal cord injured persons should be accomplished.

Chapter 4

Methodology

4.1 Study design

This is a descriptive analytic cross-sectional study. It has been chosen because it can describe and analyze the study variables. Furthermore, this type of study is easily applicable, economical and cost effective. This type of study measures the level and the prevalence of the phenomena, which has been applied on a sample of the population in particular time and period. Additionally, it can measure the exposure and the effect on the same time and it can give some indicators about the association among different exposures and the outcome under investigation. A community based cross sectional study is the most suitable study design to achieve the study objectives, since it can be used descriptively, to describe differences in coping strategies among paraplegic persons in Gaza Strip.

4.2 Population and sample

4.2.1 Study population

The population of this study includes all 229 paraplegic persons who registered in the different health centers and associations in Gaza Strip.

4.2.2 Study Sample

The study sample in this research was 164 paraplegic persons agree to participate in this study.

4.3 Eligibility criteria

4.3.1 Inclusion criteria

Adult traumatic paraplegic persons.

4.3.2 Exclusion criteria

1. Congenital paraplegic persons (For example, due to Spina Bifida).
2. Paraplegic persons younger than 18 years old.

4.4 Setting of the study

The study is a community based; the data were collected from paraplegic persons were distributed throughout Gaza Strip governorates (North Gaza, Gaza, Middle area, Khan Younis, and Rafah) through different geographic distribution of the health centers and associations.

4.5 Sampling process

The study was performed on all 164 paraplegic persons in Gaza Strip who agree to participate in the study with a convenient non-probability method. The participants were interviewed by the researcher himself in an attempt to provide more credibility. One day for each center (from 8 am. Until 2 pm.) for about 20 minutes for every adult paraplegic person accept to participate in the study.

4.6 Ethical matters

An official approval letter was obtained from the Helsinki committee "Ethical committee in the Ministry of Health in Gaza Strip" (Annex 1) to allow the researcher to carry out his study. Many requests for approval to conduct the research were obtained from School of Public Health and sent for most of centers of the physically disabled persons (sample of approval letter: Annex 2). Every participant in the study received a complete explanation about the research purpose, full disclosure about the nature of the study, length of investigation, the investigation agency, and the subject's right to refuse participation risks and benefits, confidentially and sponsorship. An informed consent was attached to each questionnaire, was obtained from each participant in the study, (Annex 3,4). All the ethical matters were taken into consideration including respect of people and confidentiality.

4.7 Research instrument

Face to face questionnaire using was carried out by the researcher himself. This type of questionnaire was elected because it is an excellent method of data collection because it is

more credible, easy for the participants as some of them were illiterates. Quantitative approach provides wide coverage and characterized by high validity and reliability.

4.8 Questionnaire design

Coping styles were assessed by use of a revised version of the Ways of Coping (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986) (Annex 5). The Arabic instrument contains 44 items of a semi-structured questionnaire that describe a range of cognitive, emotional, and behavioral strategies people use to cope in specific stressful encounters (Annex 6). The participants were asked to indicate to what extent they used each of the 44 coping strategies in that encounter. The researcher then circle the appropriate category on a 4-point Likert scale starts ranging from 0 (*not at all*), 1 (*to some extent*), 2 (*much used*), to 3 (*used a great deal*). The questionnaire contains the following:

- Socio-demographic and economical information of the participant (Annex 7, 8).
- The seven coping strategies as the following: Wishful thinking and avoidance, Planful problem solving, Reappraisal, Affiliation, Accepting responsibility, Self-controlling, and Distraction and escapes.

In the following, the seven types of coping strategies and their corresponding items with their internal reliabilities are presented:

1. *Wishful thinking and avoidance* describes efforts to detach oneself and avoid thinking of the stress: refused to believe that it happened (.67), avoid being with people in general (.46), hoped a miracle would happen (.61), had fantasies about how things might turn out (.60), took it out on other people (.58), wished that situation would go away or somewhat be over with (.47), tried to forget the whole thing (.43). Cronbach Reliability alpha for seven items was (.73).

2. *Planful problem solving* describes determined problem-focused efforts to alter the situation: I know what had to be done, so I doubled my efforts to make things work (.81), stood my ground and fought for what I wanted (.67), went on as if nothing had happened (.63), I made a plan of action and followed it (.41), just concentrated on what I had to do next (.31), drew on my past experience, when I was in a similar position before (.30). Reliability alpha for six items was (.74).

3. *Reappraisal* describes efforts to create a new meaning and ways of acting: changed or grew as a person in a good way (.67), talked to somebody who could do something concrete about the problem (.67), tried to look on the bright side of things (.53), I went over in my mind what I would say or do (.52), took a big chance, even something very risky (.50), I discover what is important in life (.44), changed something so things would turn out all right (.44), I prayed (.41), thought that the experience makes me stronger than before (.31). Reliability alpha for nine items was (.74).

4. *Affiliation* describes efforts to seek emotional and informational support: I talked to someone to find out more information (.58), I tried not to act hastily or follow my first hunch (.57), I asked a person I respected for advice (.56), accepted sympathy and understanding from somebody (.55), I asked for advice (.54). The reliability alpha for five items was (.72).

5. *Accepting responsibility* acknowledges one's own role in difficulties: I change something about myself (.74), I apologized or did something to make up (.70), I criticize myself (.61), I promised myself that things would be different next time (.48), realized that I brought the problem on myself (.31). Reliability alpha for five items was (.65).

6. *Self-controlling* describes efforts to regulate ones feelings: I tried to keep my feelings from interfering with other things too much (.65), I thought about how a person I admire would handle the situation (.57), tried not to burn my bridges, but leave things open (.46),

kept others from knowing how bad things were (.47), I try to forget all disturbing things (.46), I try to keep my feelings to myself (.42), I try to do something, even if not significant, but something (.34). Reliability alpha for seven items was (.66).

7. *Distraction and escapes* coping refer to divers confused efforts: slept much more than usual (.72), went along with the fate: I just had bad luck (.68), I tried to feel better by eating, smoking, and using medication (.46), I refused to think about the whole issue (.43), I express anger to the persons who caused the problems (.30). Reliability alpha for five items was (.64).

4.9 Reliability

The degree to which each item correlates with the overall test score is termed "internal consistency" (Mitchell & Joley 1996). The researcher estimated the reliability of the Ways of Coping questionnaire by using the equation of Cronbach's alpha (No. of items = 44); where the value of alpha = (0.8393) (Annex 9). This indicates that the Ways of Coping measurement device is reliable (Table: 4.1).

Table 4.1: Alpha Cronbach

Subscales	No. of subjects	No. of items	Chronbach,s Alpha
Wishful thinking and avoidance	164	7	.73
Planful problem solving	164	6	.74
Reappraisal	164	9	.74
Affiliation	164	5	.72
Accepting responsibility	164	5	.65
Self controlling	164	7	.66
Distraction	164	5	.64

4.10 Data Collection

Data was collected by using face to face questionnaire. The interviews were implemented in houses, centers, associations, and in every where the paraplegic persons could be reached. 20 minutes for every paraplegic person, 1 day for every center from 8 am.–2 pm.). After a collection of the questionnaire, the researcher looked over the completed questionnaires to ensure completion of all information needed. All the returned questionnaires were reviewed and coded. Some uncompleted questionnaires were returned for completing again the missing data.

The response rate was high as 71.6% among the study population, which reflects the awareness of the paraplegic persons with importance of their issue, reflects the importance of the study, and reflects the importance of community involvement in research projects.

4.11 Statistical analysis

All returned collected data were introduced to the computer using SPSS (Statistical Package for Social Science version 11.0) program. Data were checked for entry errors using a frequencies and logical checks on all variables. Data analysis was carried as follows:

Descriptive analytic cross-sectional design was used to examine the distribution of different factors among the study population. The independent variables in the study were age, gender, address, marital status, level of education, occupation, and income. Data analysis included frequency tables of the study variables, computing means and standard deviation for the continuous numeric variables, and testing the reliability and validity of

the instrument. T-test and one way ANOVA statistical test were used in order to investigate the relationship between coping strategies of the paraplegic persons and other independent variables.

Chapter 5

Results and Discussion

This chapter represents results of the study including socio-demographic and socio-economical characteristics of the subjects including age, gender, living area, marital status, education, occupation, and income factors affecting coping strategies among paraplegic persons.

5.1 Characteristics of the study population

The actual number of paraplegic persons who had participated in this study was 164 paraplegic persons.

5.1.1 Distribution of the study population according to gender

Males were 137 respondents representing 83.5% of the total number of the study population; Females were 27 respondents representing 16.5% of the total number of the study population (Figure 5.1.1).

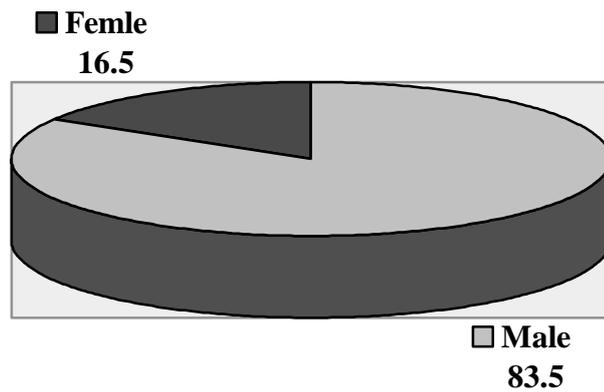


Figure 5.1: Distribution of the sample according to gender

5.1.2 Distribution of the study population according to age group

Age was divided into three age-groups (18-31, 32-45, 46-60). 90 paraplegic persons representing 54.9% of the total sample were between the age of 18-31 years; 58 paraplegic persons representing 35.4% of the total number were between the age of 32-45 years old; 16 paraplegic persons representing 9.8% of the total number were between 46-60 years old. (Figure 5.2).

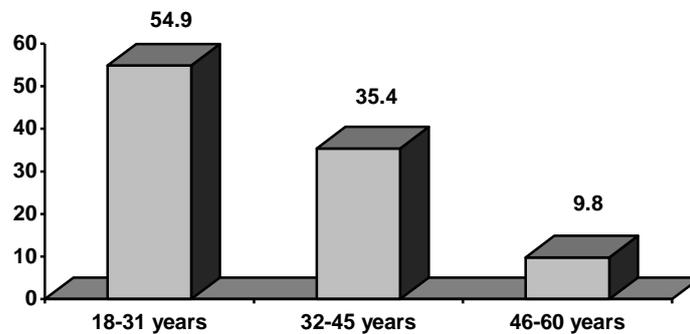


Figure 5.2: Distribution of the sample according to age group

5.1.3 Distribution of the study population according to living area

The following figure shows that 35 subjects of the study population representing 21.3% live in North Gaza; 35 representing 21.3% live in Gaza; 27 representing 16.5% live in Middle Zone; 36 representing 22.0% live in Khan Younis; and 31 representing 18.9% live in Rafah (Figure 5.3).

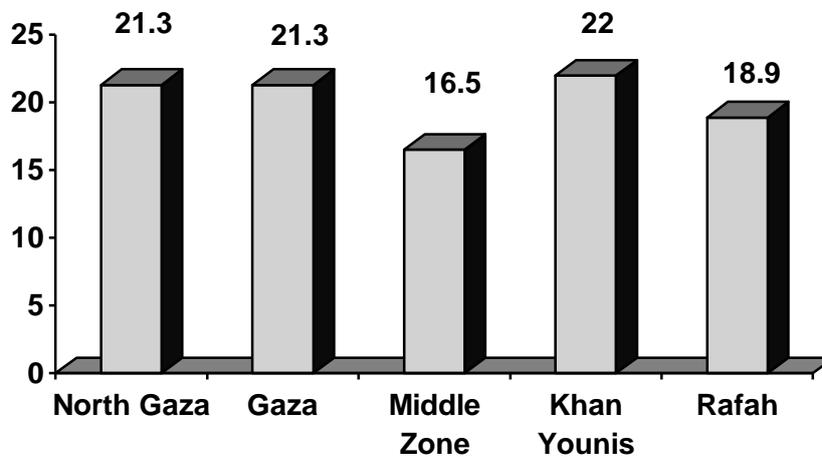


Figure 5.3: Distribution of the sample according to the living area

5.1.4 Distribution of the study population according to marital status

The following figure shows that 61 paraplegic patients representing 37.2% were single including unmarried, divorced, widowers, and widows whereas, 103 paraplegic persons representing 62.8% of the study population were married (Figure 5.4).

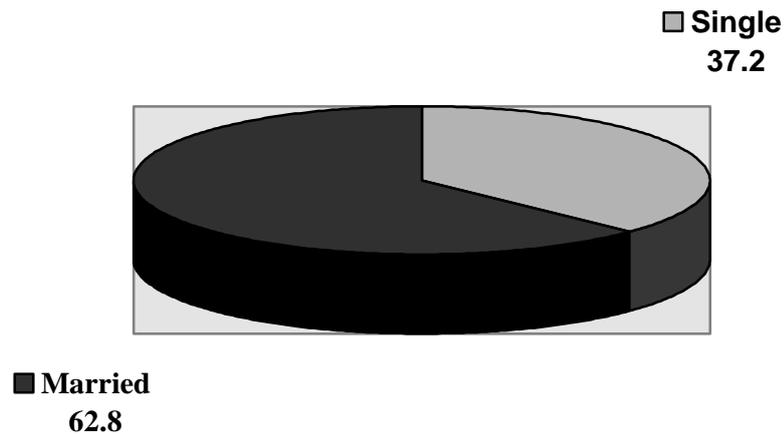


Figure 5.4: Distribution of the sample according to the marital status

5.1.5 Distribution of the study population according to educational level

The results showed that 5 subjects representing 3.0% of the total sample were illiterates; 23 subjects representing 14% finished 1-6 class education level only; 48 representing 29.3% finished 7-9 class education; 59 representing 36% finished 10-12 class education; 29 representing 17.7 finished 12+ (College and university) level of education (Figure 5.5).

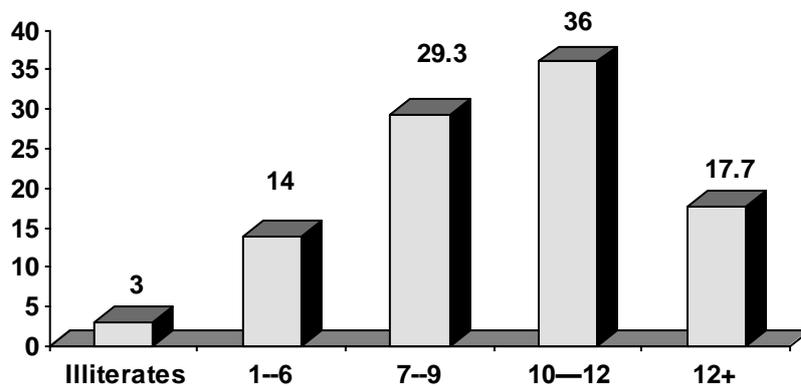


Figure 5.5: Distribution of the sample according to level of education

5.1.6 Distribution of the study population according to the employment status pre-injury

Before injury, 90 subjects representing 54.9% of the total 164 sample were employed, while 74 subjects representing 45.1% of the total sample were unemployed (Figure 5.6).

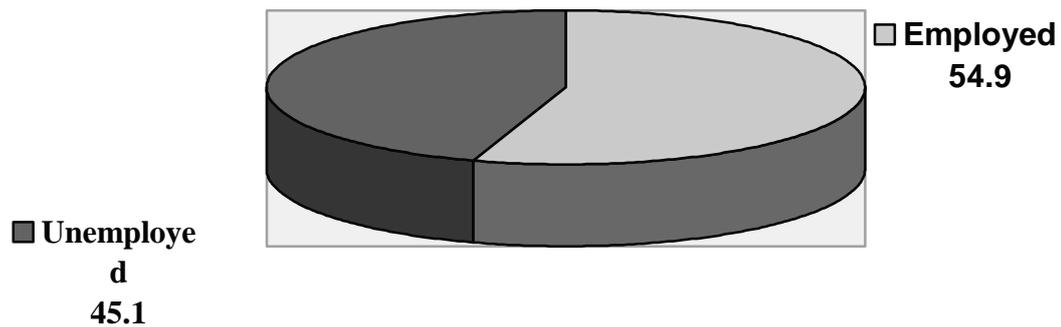


Figure 5.6: Distribution of the sample according to the employment status pre-injury

5.1.7 Distribution of the study population according to the employment status post-injury

After injury, there were only 42 employed subjects representing 25.6% of the total sample, whereas 122 subjects representing 74.4% were unemployed (Figure 5.7).

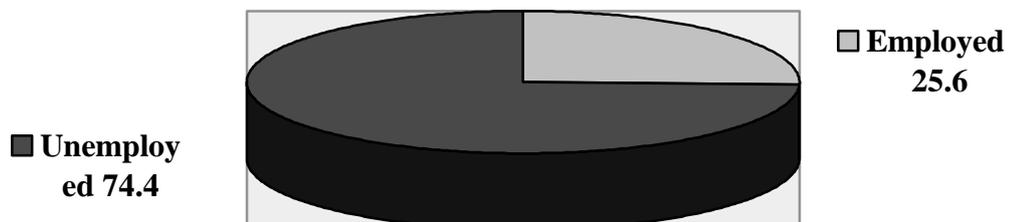


Figure 5.7: Distribution of the sample according to the employment status post-injury

5.1.8 Distribution of the study population according to income

After injury, there were 147 subjects representing 89.6% of the total sample having average monthly income less than 1500 NIS, while 17 subjects representing 10.4% were having average monthly income more than 1500 NIS (Figure 5.8). The poverty line in Palestine is 1500 NIS as real per capita is 2\$ according to the World Bank, (2003).

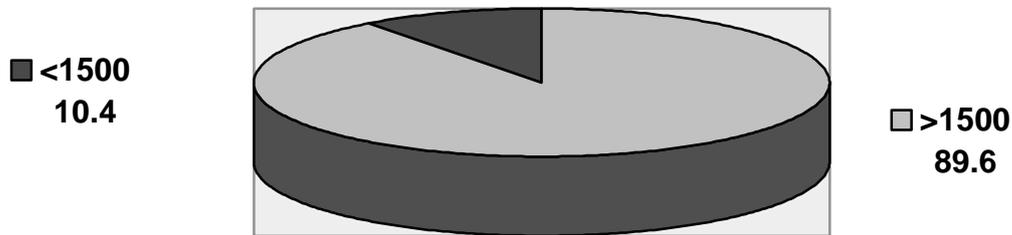


Figure 5.8: Distribution of the sample according to income

5.2 Coping strategies among paraplegic persons

The following table shows means, standard deviations, and variances of the seven types of coping strategies that include their frequencies among paraplegic persons in Gaza Strip (Table 5.1).

Table 5.1: Means of coping strategies among paraplegic persons.

Coping Strategies	Mean	S.D.	Variance
Self-controlling	1.95	.77	.59529
Planful problem solving	1.86	.91	.83267
Reappraisal	1.71	.60	.36090
Affiliation	1.65	.65	.42466
Accepting responsibility	1.56	.69	.48976
Wishful thinking and avoidance	1.29	.63	.40830
Distraction and escape	1.22	.59	.35885

As shown in table (5.1):

Self-controlling with a mean (1.95) is the first type of coping strategies used by paraplegic persons in Gaza Strip. The researcher attribute this findings as paraplegic persons in Gaza Strip prefer to start using emotional focused coping by spending efforts to regulate their emotional consequences and the intense feelings and actions aroused by their disabilities. There is evidence that persons with feelings of control are often highly successful in promoting good adjustment, in reducing psychological and emotional distress caused by the disability and this reveals that paraplegic persons in the Palestinian society prefer to use cognitive coping style before starting using behavior actions. The research literature support the researcher's interpretation as Schultz and Decker cleared that SCI people who believed that they had control over their illness adjusted better than those without such beliefs (Schults & Decker, 1985).

Planful problem solving with a mean (1.86) is the second type of coping strategies used. This means that the second type used by paraplegic persons in Gaza Strip is active problem-focused efforts to alleviate the stressful circumstances of their disabilities through direct action of confronting and problem solving. Planful problem solving deals with deliberate problem-focused efforts to alter the situation, coupled with an analytic approach to solving the problem. The researcher attribute these findings by highlighting the fact that 90 of the total number of the sample population representing 54.9% are within the group of age (18-31 years old), and 137 of the total number of the sample population representing 83.5% are males. This means that paraplegic persons in Gaza Strip are considered a society of youth disabled adult males looking fore action and positive functional solution to the difficulties and stressors they encounter. This goes with the literature as Planful problem-solving coping is viewed as a general coping approach that can help people manage or adapt to any stressful situation, thereby enhancing flexibility and perceived control, as well as minimizing emotional distress, even in situations that cannot be changed for the better (D'Zurilla & Nezu, 1999).

Reappraisal with a mean (1.71) is the third type of coping strategies used. This means using of cognitive strategies to reframe their situation in more positive terms and focusing on the positive aspects, benefits, and potentially positive interpretations of the negative situations. Using Reappraisal means looking on the bright side of things and using religious coping which may be most helpful with uncontrollable stressors (Aldwin, 1994) or people facing chronic stressors such as paraplegia, especially those in lower socioeconomic status groups (Cupertino et al, 2000). The researcher attribute these findings as paraplegic persons in our society use to re-assess their situation in an attempt to create a new meaning and ways of acting whereas 53.7% of the total number of the sample

have 10-12 class and 12+ (collage and university) level of education, 36% of them have (10-12 class) of education, and 17.7% of the them have 12+ education. Costa, Somerfield and McCrae (1996) cleared that when any person is faced with any situation, he first appraises what it means to him (Costa et al, 1996). This mean that paraplegic persons in Gaza Strip are considered well educated society of disabled persons which help them to manage their stressors with mind and wisdom. This goes with the literature whereas D'Zurilla and Nezu (1999) emphasize that continued successful coping attempts serve to reduce or minimize one's immediate emotional distress (e.g., anxious symptoms) in reaction to a stressful event, as well as to decrease the probability of long-term negative outcomes (e.g., anxiety disorder and poor quality of life).

Affiliation with a mean (1.65) is the forth type of coping strategies used. This means that paraplegic persons in Gaza Strip also seek emotional and informational support and motive thought about enjoying developing good relationships with friends and colleagues. The researcher attribute these findings to the fact that 54.9% of the total number of the sample are within the group of age (18-31 years old) and 83.5% of the total number of sample are males, these youth paraplegic male persons naturally enjoy seeking friends and emotional support. Halligan and Yehuda (2000) noticed that the prevalence of PTSD is almost twice as high in women as in men, especially when associated with traumatic events such as SCI (Halligan & Yehuda, 2000).

Accepting responsibility with a mean (1.56) is the fifth type of coping strategies used. This means that paraplegic persons in Gaza Strip recognize and acknowledge their personal role in solving their own problems and concomitantly try to put things right by criticizing and their attempts to change something about themselves. Although Accepting responsibility is

located in the fifth position of the types of coping strategies used, but still an important cognitive type of coping strategies as they give themselves a hope that things will be different next, and they can do something to make up, by accepting responsibility one can learn wisely from the situation and prepare oneself for further action. The researcher attribute this to the mechanical and practical nature of paraplegic persons in Gaza Strip, whereas they use this type of cognitive coping strategies in the fifth position and not placed at the head.

Wishful thinking and avoidance with a mean (1.29) is the sixth type of coping strategies used. An avoidant person tends to avoid rather than confront problems and attempts to make others responsible for his or her problems. This means that this dysfunctional and avoidant type of coping is not preferred by paraplegic people in Gaza Strip as it comes in the sixth level of preference. Avoidance, withdrawal, and substance use are usually associated with poor outcomes (Aldwin & Revenson, 1987).

The researcher attribute these findings by hinting to the fact that Wishful thinking and avoidance type of coping strategies are used by females, paraplegic persons living in North Gaza, unemployed paraplegic persons after injury. Belonging to the females we aforementioned that females are naturally tend to cope negatively by avoiding confronting the encountered stressor. Belonging to the paraplegic persons living in North Gaza the researcher believes that this governorate is less civilized and rural area, and their residents tend to use non rational and dysfunctional types of coping strategies. Belonging to unemployed paraplegic persons the researcher believes that unemployment push towards using avoidance, and negative dysfunctional types of coping strategies. This is supported by the literature that look to Wishful thinking and avoidance as a dysfunctional problem-

solving dimension described as procrastination, passivity or inaction, and dependency (D'Zurilla et al, 2002).

Distraction and escape with a mean (1.22) is the seventh type of coping strategies used. This means that those paraplegic persons use a strategy to minimize the significance of the situation by means of detachment or disengagement as their coping refer to diverse confused efforts by using negative coping strategies such as sleeping more than usual, eating, and substance use. The researcher attribute these findings to the fact that Distraction and escape type of coping strategies are used by paraplegic persons living in Rafah (P. Value = .044, Mean = 1.41), and the unemployed paraplegic persons (P. Value = .000, Mean = 1.32). Belonging paraplegic persons living in Rafah, the researcher allude to the rustic nature of Rafah whereas people tend to use emotional focused coping. Belonging to unemployment independent factor the researcher attribute the correlation between unemployment and using Distraction and escape type of coping strategies by the low self-esteem, low self-confidence resulting, frustration, and inferiority that the unemployed paraplegic person burdened with when he feels that he cann't take the responsibility of her/his family or her/himself. It seems that this negative type of coping is not preferred or accepted too much by paraplegic persons in Gaza Strip as it comes in the last level of used coping strategies. This is congruent with the literature as Godshall and Elliott clarified that tendencies to avoid problem solving are associated with greater sedentary leisure activity and increased alcohol consumption (Godshall & Elliott, 1997).

5.2.1 Coping strategies and gender

In order to test the sex differences between the coping strategies types among the paraplegic persons, we performed t-independent test. The results in table (5.2) shows that there are significant differences between the gender factor and Wishful thinking and avoidance coping strategies, (P. Value = .011, mean = 1.58) for the benefits of females; Planful problem solving coping strategy, (P. Value = .006, mean = 1.95) for the benefits of males; and Self-controlling coping strategy, (P. Value = .039, mean = 2.00) for the benefits of males (Table 5.2). These results are congruent with the findings of Tobin and Ollenburger (1994) as they concluded that gender has a great influence on coping strategies (Tobin and Ollenburger 1994).

These results indicate that Wishful thinking and avoidance is the most type of coping strategies used by females, The researcher attribute this result to the nature of the females in the Palestinian culture as females were reared on timidity and coyness not on initiative and confrontation. Results showed also that Planful problem solving and Self-controlling are the most types of coping strategies used by males. The researcher attribute this to the nature of initiative and confrontation that males have in general and especially in the Palestinian society. However, there are no significant differences between gender factor and reappraisal (Mean of Males = 1.75); affiliation (Mean of Males = 1.69); accepting responsibility (Mean of Males = 1.56), and distraction and escape coping strategy (Mean of Males = 1.25) (Table 5.2). These higher means for the benefits of males indicate that males tend to use these types of coping strategies more than females. Findings of this study showed that there is significant differences between gender and coping strategies witch indicates that type of gender influence the coping strategies used by paraplegic persons. The results conclude that Wishful thinking and avoidance coping strategies is the most

type used by females. Emotion based coping approaches such as avoidance or resignation are found to be associated with depression and negative physical symptoms (Felsten, 1998).

Table 5.2: Independent t-test comparing means of coping strategies according to gender

Type of coping strategies	Gender	N	Mean	Std. Deviation	t	df	P. Value
Wishful Thinking and Avoidance	Male	137	1.23	.62292	-2.587	162	.011
	Female	27	1.58	.65456	-2.502		
Planful Problem Solving	Male	137	1.95	.87524	2.784	162	.006
	Female	27	1.43	.98738	2.567		
Reappraisal	Male	137	1.75	.57632	1.678	162	.095
	Female	27	1.54	.69753	1.476		
Affiliation	Male	137	1.69	.63990	1.688	162	.093
	Female	27	1.46	.68836	1.607		
Accepting Responsibility	Male	137	1.56	.67105	.044	162	.965
	Female	27	1.55	.84550	.038		
Self-Controlling	Male	137	2.00	.74318	2.085	162	.039
	Female	27	1.67	.86336	1.885		
Distraction and Escape	Male	137	1.25	.59521	1.300	162	.195
	Female	27	1.08	.61101	1.278		

On contrary, Planful problem solving and Self-controlling types of coping strategies are the most types of coping strategies used by men. These findings are supported by Dwyer and Cummings (2001) that women will engage in more social support seeking while men will typically engage in more individual problem solving.

5.2.2 Coping strategies and age

In order to test the age differences among paraplegic persons we divided the sample into three age groups. The first group was 18-31 years old, the second group was 32-45 years old, and the third group was 46-60 years old. Then, we performed one-way ANOVA

statistical test. As shown in the following table, the result show that there were no significant differences between the age factor and all types of coping strategies except (approximately) Affiliation (P. Value = .059, mean = 1.75)for the benefit of the group of age 18-31 (Table 5.3). This result is congruent with the literature about the relationship between the age factor and coping strategies where researches have produced conflicting results (Ollenburger & Tobin 1998). This result indicates that age variable doesn't influence types of coping strategy except the group of age (18-31). The researcher attribute this to the tendency of this group of age to seek emotional support and their enjoyment for developing good relationships with friends. However, in the seven types of coping strategies including wishful thinking and avoidance, planful problem solving, reappraisal, affiliation, accepting responsibility, self-controlling, and distraction and escape coping strategies, the groups of ages that have the highest means relating to these seven types of coping strategies were in turn, (1.39) for the benefits of (32-45) age group; (1.87) for the benefits of (18-31) age group; (1.82) for the benefits of (46-60) age group; (1.75) for the benefits of (18-31) age group; (1.60) for the benefits of (18-31) age group; (2.07) for the benefits of (18-31) age group; (1.26) for the benefits of (18-31) age group (Table 5.3). Paraplegics of these age groups tend to use the relating coping strategies more than the other ages according to the related types of coping strategies. Although findings of this study showed that there is no significant differences between age and coping strategies witch indicates that no influence of age upon coping strategies used by paraplegic persons (except Affiliation approximately).

Table 5.3: One-way ANOVA testing coping strategies and age

Descriptive				ANOVA					
Type of coping strategies	Age group	N	Mean	Indep. Var.	Sum of squares	df.	Mean Square	F	Sig.
Wishful Thinking and Avoidance	18-31	90	1.26	Between groups	1.253	2	.627	1.545	.216
	32-45	58	1.39	Within groups	65.300	161	.406		
	46-60	16	1.09	Total	66.554	163			
	Total	164	1.29						
Planful Problem Solving	18-31	90	1.86	Between groups	.020	2	.010	.012	.988
	32-45	58	1.85	Within groups	135.705	161	.843		
	46-60	16	1.86	Total	135.725	163			
	Total	164	1.86						
Reappraisal	18-31	90	1.71	Between groups	.222	2	.111	.306	.737
	32-45	58	1.69	Within groups	58.603	161	.364		
	46-60	16	1.82	Total	58.826	163			
	Total	164	1.71						
Affiliation	18-31	90	1.75	Between groups	2.391	2	1.195	2.880	.059
	32-45	58	1.58	Within groups	66.404	160	.415		
	46-60	16	1.37	Total	68.795	162			
	Total	164	1.65						
Accepting Responsibility	18-31	90	1.60	Between groups	.650	2	.325	.661	.518
	32-45	58	1.54	Within groups	79.181	161	.492		
	46-60	16	1.38	Total	79.830	163			
	Total	164	1.56						
Self-controlling	18-31	90	2.07	Between groups	3.243	2	1.621	2.783	.065
	32-45	58	1.81	Within groups	93.789	161	.583		
	46-60	16	1.73	Total	97.032	163			
	Total	164	1.95						
Distraction and Escape	18-31	90	1.26	Between groups	.306	2	.153	.424	.655
	32-45	58	1.20	Within groups	58.186	161	.361		
	46-60	16	1.12	Total	58.492	163			
	Total	164	1.22						

Literature indicates that old people maintain high levels of mastery in the face of difficult life circumstances (Rodin, 1986), the older adults (46-60 years) of our study sample are 16 paraplegic persons represent 9.8% of the total number of the study population which represents a few part of the study sample, and subsequently, the majority of the study sample are young and middle age paraplegic persons. In addition, personality traits such as

flexibility, adaptability, and a sense of humor become essential as do adequate financial, social, and organizational resources (Solomon, 1996). And a person's own sense of mastery and competence influence how stress is managed. Feeling that one is in control has repeatedly been proved to contribute to well being at any age. Therefore coping responds according to the age factor are approximate, and the age factor in our study seems to be with no or very little influence on the type of coping strategies used.

5.2.3 Coping strategies and living area

In order to test the living area differences between the coping strategies types among the paraplegic persons, we performed one-way ANOVA statistical test. As shown in the following table, the results show that there are significant differences between the living area as an independent variable and Wishful Thinking and Avoidance coping strategies (P. Value = .008, Mean = 1.55) for the benefits of Rafah; Reappraisal coping strategies (P. Value = .023, mean = 1.87) for the benefits of Khan Younis; Self-controlling coping strategies (P. Value = .046, mean = 2.18) for the benefits of Gaza; and Distraction and escape coping strategies (P. Value = .044, mean = 1.41) for the benefits of Rafah (Table 5.4).

Table 5.4: One-way ANOVA testing coping strategies and living area

Descriptive				ANOVA					
Type of coping strategies	Living area	N	Mean	Indep. Var.	Sum of squares	df.	Mean Square	F	Sig.
Wishful Thinking and Avoidance	North Gaza	35	1.12	Between groups	5.532	4	1.383	3.603	.008
	Gaza	35	1.10						
	Middle Zone	27	1.24	Within groups	61.022	159	.384		
	KhanYounis	36	1.46						
	Rafah	31	1.55						
Total	164	1.29	Total	66.554	163				
Planful Problem Solving	North Gaza	35	1.74	Between groups	4.190	4	1.047	1.266	.286
	Gaza	35	2.11						
	Middle Zone	27	1.63	Within groups	131.535	159	.827		
	KhanYounis	36	1.92						
	Rafah	31	1.87						
Total	164	1.86	Total	135.725	163				
Reappraisal	North Gaza	35	1.51	Between groups	4.037	4	1.009	2.929	.023
	Gaza	35	1.85						
	Middle Zone	27	1.53	Within groups	54.789	159	.345		
	KhanYounis	36	1.87						
	Rafah	31	1.77						
Total	164	1.71	Total	58.826	163				
Affiliation	North Gaza	35	1.705	Between groups	1.294	4	.324	.757	.555
	Gaza	35	1.65						
	Middle Zone	27	1.48	Within groups	67.500	158	.427		
	KhanYounis	36	1.66						
	Rafah	31	1.76						
Total	164	1.65	Total	68.795	162				
Accepting Responsibility	North Gaza	35	1.45	Between groups	2.074	4	.519	1.060	.378
	Gaza	35	1.66						
	Middle Zone	27	1.38	Within groups	77.756	159	.489		
	KhanYounis	36	1.67						
	Rafah	31	1.58						
Total	164	1.56	Total	79.830	163				
Self-Controlling	North Gaza	35	1.88	Between groups	5.708	4	1.427	2.485	.046
	Gaza	35	2.18						
	Middle Zone	27	1.61	Within groups	91.323	159	.574		
	K. Younis	36	2.07						
	Rafah	31	1.91						
Total	164	1.95	Total	97.032	163				
Distraction and Escape	North Gaza	35	1.11	Between groups	3.473	4	.868	2.509	.044
	Gaza	35	1.04						
	Middle Zone	27	1.20	Within groups	55.019	159	.346		
	KhanYounis	36	1.36						
	Rafah	31	1.41						
Total	164	1.22	Total	58.492	163				

The results reveal that both of Wishful Thinking and Avoidance coping strategies, and Distraction and escape coping strategies are the most types of coping strategies used by the paraplegic persons living in Rafah. This means that paraplegic persons living in Rafah use

these two types of coping strategies (Wishful thinking and avoidance; Distraction and escape) which are considered emotion-focused coping strategies. This means that paraplegic people living in Rafah attempt to moderate the emotional response to their stressful disability, and this may promote well-being temporarily but are not successful in the long run because they don't improve the problematic situation. The researcher attributes these results to the rustic nature of Rafah which means that paraplegic people who are living in Rafah may be less civilized and this influences the type of coping strategies used.

The results revealed also that Reappraisal is the most type of coping strategies used by paraplegic persons in Khan Younis. The researcher attributes this result to the various services offered by The Red Crescent Society and the other organizations, in addition to the nature of the more civilized residents living in Khan Younis. Findings found also that Self-controlling is the most type of coping strategies used by paraplegic persons living in Gaza. The researcher attributes this finding to the abundance of clubs where sportive and thought meetings are held and cultural lectures are delivered rapidly and societies care with conditions of the disabled people, in addition to the urban nature of Gaza city.

However, the results show that no significant differences between the living area factor and Planful Problem Solving coping strategies (Mean of Gaza = 2.11); Affiliation coping strategies (Mean of Rafah = 1.76); and Accepting Responsibility coping strategies (Mean of Khan Younis = 1.67) (Table 5.4). These higher means indicate that paraplegic persons of Gaza tend to use Planful problem Solving type of coping strategies more than the other paraplegic persons in the other governorates; paraplegic persons of Rafah tend to use Affiliation coping strategies more than the other paraplegic persons in the other governorates, and paraplegic persons of Khan Younis are tend to use Accepting Responsibility coping strategies. Research on the relationship between coping strategies

and living area factor are not found to compare our results with them. Future research is highly recommended in this area.

5.2.4 Coping strategies and marital status

In order to test the marital status differences between the coping strategies types among the paraplegic persons, we performed t-independent test. As shown in the following table, the results show that there are no significant differences between the marital status variable and the types of coping strategies been used (Table 5.5). These results are contradictory with the literature about marital status factor and coping strategies. Chan, Lee, and Lieh-Mak (2000) found that the findings about the adjustment outcomes and coping styles of persons with SCI and their spouses indicate that they are not passive victims and a similar injury may produce different outcomes in different individuals (Chan et al, 2000). Holicky and Charlifue, (1999) conclude that married individuals with SCI having less depression, greater life satisfaction and psychological well-being, and having better perceived quality of life. The researcher attribute these findings to the tranquility, heartsease, calmness, ease, security, and peace of mind that have been given by the spouses in general and by the spouses with disabilities in specific. However, The means of Wishful thinking and avoidance, Planful problem solving, and Distraction and escape coping strategies are in turn (1.31), (1.91), (1.24) are higher for the benefits of the married paraplegic persons (Table 5.5).

Table 5.5: Independent t-test comparing means of coping strategies according to marital status

Type of coping strategies	Marital Status	N	Mean	Std. D.	t	df	P. Value
Wishful thinking and avoidance	Single	61	1.27	.65085	-.377	162	.707
	Married	103	1.31	.63461	-.374		
Planful problem solving	Single	61	1.79	.88825	-.778	162	.438
	Married	103	1.91	.92821	-.787		
Reappraisal	Single	61	1.72	.64935	.059	162	.953
	Married	103	1.71	.57331	.057		
Affiliation	Single	61	1.76	.65338	1.650	162	.101
	Married	103	1.59	.64514	1.645		
Accepting responsibility	Single	61	1.64	.72398	1.151	162	.251
	Married	103	1.51	.68409	1.134		
Self-controlling	Single	61	2.05	.77598	1.303	162	.195
	Married	103	1.89	.76630	1.299		
Distraction and escape	Single	61	1.20	.55737	-.420	162	.657
	Married	103	1.24	.62457	-.433		

The means of Reappraisal, Affiliation, Accepting responsibility, and Self-controlling are in turn (1.72), (1.76), (1.64), (2.05) are higher for the benefits of the single paraplegic persons. These results indicate that married paraplegic persons tend to use Wishful thinking and avoidance, Planful problem solving, and Distraction and escape types of coping strategies, while single paraplegic persons tend to use Reappraisal, Affiliation, Accepting responsibility, and Self-controlling types of coping strategies.

5.2.5 Coping strategies and education

To test the differences between education levels and types of coping strategies used by paraplegic persons, we performed one-way ANOVA statistical test.

Table 5.6: One-way ANOVA testing means of coping strategies according to educational level

Descriptive				ANOVA					
Type of coping strategies	Educational Level	N	Mean	Indep. Var.	Sum of squares	df.	Mean Square	F	Sig.
Wishful thinking and avoidance	Illiterate	5	1.14	Between groups	1.744	4	.436	1.069	.374
	1 – 6 class	23	1.08						
	7 – 9 class	48	1.29	Within groups	64.810	159	.408		
	10 – 12 class	59	1.31						
	12+	29	1.43						
Total	164	1.29	Total	66.554	163				
Planful problem solving	Illiterate	5	.90	Between groups	20.341	4	5.085	7.007	.000
	1 – 6 class	23	1.76						
	7 – 9 class	48	1.48	Within groups	115.384	159	.726		
	10 – 12 class	59	2.08						
	12+	29	2.31						
Total	164	1.86	Total	135.725	163				
Reappraisal	Illiterate	5	1.11	Between groups	5.956	4	1.489	4.478	.002
	1 – 6 class	23	1.67						
	7 – 9 class	48	1.52	Within groups	52.870	159	.333		
	10 – 12 class	59	1.82						
	12+	29	1.95						
Total	164	1.71	Total	58.826	163				
Affiliation	Illiterate	5	1.16	Between groups	3.481	4	.870	2.105	.083
	1 – 6 class	23	1.53						
	7 – 9 class	48	1.54	Within groups	65.313	158	.413		
	10 – 12 class	59	1.77						
	12+	29	1.79						
Total	164	1.65	Total	68.795	162				
Accepting responsibility	Illiterate	5	1.00	Between groups	6.120	4	1.530	3.300	.013
	1 – 6 class	23	1.57						
	7 – 9 class	48	1.33	Within groups	73.710	159	.464		
	10 – 12 class	59	1.71						
	12+	29	1.70						
Total	164	1.56	Total	79.830	163				
Self-controlling	Illiterate	5	.94	Between groups	7.257	4	1.814	3.213	.014
	1 – 6 class	23	1.92						
	7 – 9 class	48	1.84	Within groups	89.775	159	.565		
	10 – 12 class	59	2.09						
	12+	29	2.02						
Total	164	1.95	Total	97.032	163				
Distraction and escape	Illiterate	5	1.32	Between groups	1.420	4	.355	.989	.415
	1 – 6 class	23	1.28						
	7 – 9 class	48	1.31	Within groups	57.073	159	.359		
	10 – 12 class	59	1.21						
	12+	29	1.04						
Total	164	1.22	Total	58.492	163				

As shown in table 5.6, the results showed that there are significant differences between the educational level as an independent variable and Planful problem solving coping strategies

(P. Value = .000, mean = 2.31) for the benefit of paraplegic persons with high education (collages and universities); Reappraisal coping strategies (P. Value = .002, mean = 1.95) for the benefit of paraplegic persons with high education; Accepting responsibility coping strategies (P. Value = .013, mean = 1.71) for the benefit of paraplegic persons with (10-12 class) education; Self-controlling coping strategies (P. Value = .014, mean = 2.09) for the benefit of paraplegic persons with (10-12 class) education (Table 5.6).

These results indicate that paraplegic persons with (10-12 class) education use Accepting responsibility and Self-controlling coping strategies. Findings conclude also that paraplegic persons of high education use Planful problem solving, and Reappraisal coping strategies. These results are congruent with the literature as Diener and colleagues (1993) conclude that there is small but significant correlation between education and coping with SCI (Diener et al, 1993). The researcher attribute these finding to the nature of education. As people are more educated (class 12 and above) as they can deal with stressful events with more awareness, rationality and reasonableness. Therefore, in the case of facing a serious event such as paraplegia, they deal (in general) with the event with wisdom and sapience.

However, the results show no significant differences between the educational level factor and Wishful thinking and avoidance coping strategies (Mean of high education = 1.43); Affiliation coping strategies (Mean of high education = 1.79); and Distraction and escape coping strategies (Mean of illiterates = 1.32) (Table 5.6). These results indicate that high educated paraplegic persons tend to use both of Wishful thinking and avoidance and Affiliation coping strategies, whereas, not educated paraplegic persons tend to use Distraction and escape coping strategies.

5.2.6 Coping strategies and employment status pre-injury

In order to test the differences between the coping strategies types among the paraplegic persons, we performed t-independent test. As shown in the following table, the results show that no significant differences between occupational status before injury and all types of coping strategies (Table 5.7). These results indicate that the employment status before injury has no influence on coping strategies used. These results go together with the literature as Chase and King (1990) suggest that employment is less important in coping for persons with SCI than previously believed. The researcher clarifies that the main goal of testing the employment status before injury is to make a comparison with the situation of employment status after injury as the number of unemployed paraplegic persons before injury was 74 individual representing 54.1% of the total 164 respondent. This number increased to 122 unemployed paraplegic person after injury representing 74.4% of the total 164 paraplegic person. These findings explain how much the increasing number of the unemployment paraplegic people after injury will affect the types of coping strategies used. However, The means of Planful problem solving, Reappraisal, Self-controlling and Distraction and avoidance types of coping strategies are in turn (1.93), (1.72), (1.97), (1.26). These means are higher for the benefits of the employed paraplegic persons before SCI (Table 5.7). The means of Wishful thinking and avoidance, Affiliation, and Accepting responsibility are in turn (1.36), (1.72), (1.60). These means are higher for the benefits of the unemployed paraplegic persons before SCI. These results indicate that the employed paraplegic persons before SCI tend to use Planful problem solving, Reappraisal, Self-controlling and Distraction and avoidance types of coping strategies, while unemployed paraplegic persons tend to use Wishful thinking and avoidance, Affiliation, and Accepting responsibility types of coping strategies.

Table 5.7: Independent t-test comparing means of coping strategies according to employment status pre-injury

Type of coping strategies	Employment status pre-injury	N	Mean	Std. Deviation	t	df	P. Value
Wishful thinking and avoidance	Employed	90	1.24	.62679	-1.215	162	.226
	Unemployed	74	1.36	.65152	-1.211		
Planful problem Solving	Employed	90	1.93	.90249	.981	162	.328
	Unemployed	74	1.79	.92480	.979		
Reappraisal	Employed	90	1.72	.54081	.092	162	.926
	Unemployed	74	1.71	.67023	.091		
Affiliation	Employed	90	1.60	.62956	-1.170	162	.244
	Unemployed	74	1.72	.67577	-1.163		
Accepting Responsibility	Employed	90	1.52	.68282	-.781	162	.436
	Unemployed	74	1.60	.72182	-.777		
Self-controlling	Employed	90	1.97	.77516	.353	162	.725
	Unemployed	74	1.92	.77176	.353		
Distraction And escape	Employed	90	1.26	.61358	.915	162	.361
	Unemployed	74	1.17	.58151	.920		

5.2.7 Coping strategies and employment status post-injury

In order to test the differences between the coping strategies types among the paraplegic persons, we performed t-independent test. As shown in the following table, the results showed that there were significant differences between the living the employment status after SCI as an independent variable and Wishful Thinking and Avoidance coping strategies (P. Value = .049, mean = 1.35) for the benefit of the unemployed paraplegic persons after SCI; Planful problem solving coping strategies (P. Value = .000, mean = 2.48) for the benefit of the employed paraplegic persons after SCI; Reappraisal coping strategies (P. Value = .000, mean = 2.00) for the benefit of the employed paraplegic persons after SCI; Approximately, Accepting responsibility coping strategies (P. Value = .051, mean = 1.74) for the benefit of the employed paraplegic persons after SCI; Self-controlling coping strategies (P. Value = .020, mean = 2.19) for the benefit of the

employed paraplegic persons after SCI; Distraction and escape coping strategies (P. Value = .000, mean (1.32) for the benefit of the unemployed paraplegic persons after SCI (Table 5.8).

Table 5.8: Independent t-test comparing means of coping strategies according to employment status post-injury

Type of coping strategies	Employment status post-injury	N	Mean	Std. Deviation	t	df	P. Value
Wishful thinking and avoidance	Employed	42	1.12	.55536	-1.980	162	.049
	Unemployed	122	1.35	.65766	-2.150		
Planful problem solving	Employed	42	2.48	.76492	5.491	162	.000
	Unemployed	122	1.65	.86453	5.830		
Reappraisal	Employed	42	2.00	.46756	3.637	162	.000
	Unemployed	122	1.62	.61268	4.143		
Affiliation	Employed	42	1.66	.70744	.035	162	.972
	Unemployed	122	1.65	.63426	.033		
Accepting responsibility	Employed	42	1.74	.62044	1.970	162	.051
	Unemployed	122	1.49	.71686	2.114		
Self-controlling	Employed	42	2.19	.61560	2.354	162	.020
	Unemployed	122	1.87	.80436	2.677		
Distraction and escape	Employed	42	.94	.58981	-3.681	162	.000
	Unemployed	122	1.32	.57291	-3.628		

These results go with Cummings, Lazer, and Chisholm (1975) as they conclude that the employed women and women with occupation have lower suicide mortality rates than women who are not employed, regardless of age and marital status (Cummings, Lazer, & Chisholm, 1975). These results show that Planful problem solving, Reappraisal, Accepting responsibility, and Self controlling are the most types of coping strategies used by the employed paraplegic persons after SCI. The researcher attribute these findings to the great effect of employment and having a job after disability is happened because of the peace of mind that the paraplegic person feels as a result of feeling with financial security, and the high self-esteem as he feels that he is an active person works, won many, and able to spend

and care with family. In contrast, Wishful thinking and avoidance, and Distraction and escape are used by the unemployed paraplegic persons after injury mean that they avoid confronting the problems or the stressful situations they encounter by using negative coping strategies avoiding being with people. The researcher likes to point out here to the negative effect of unemployment as paraplegic persons have low self-esteem, powerless, and unable to care with his family. However, Affiliation coping strategies with a higher mean (Mean = 1.66) for the benefits of the employed after injury paraplegic persons (Table 5.8), This indicates that employed paraplegic persons tend to use Affiliation type of coping strategies also.

5.2.8 Coping strategies and income

In order to test the differences between the coping strategies types among the paraplegic persons, we performed t-independent test. As shown in the following table, the result showed that there are significant differences between income status after SCI as an independent variable and Planful problem solving coping strategies (P. Value = .021, mean = 2.35) for the benefit of the paraplegic persons after SCI with income more than 1500 NIS (Table 5.9). This result means that Planful problem solving is the most type of coping strategies used by paraplegic persons with high income. The researcher attribute this positive, active, and functional types of coping strategies are used by paraplegic persons with high incomes as a result of financial security, high self-esteem and self confidence that they own. This goes with the literature on coping strategies among paraplegic persons and income status after injury as Ollenburger and Moore, (1998) conclude that the economical status after injury places many spinal cord injured people in extremely vulnerable positions, which influence their ability to cope with their spinal cord injury.

Another study of Kerr and Thompson in 1972 and also a study of Krause and Crewe in 1990 reveal that low level of income for the severely disabled individuals is an indication that adjustment difficulties may be experienced (Kerr & Thompson, 1972; Krause & Crewe, 1990). However the means of paraplegic persons use Wishful thinking and avoidance, Affiliation, and Distraction and avoidance coping strategies are in turn (1.29), (1.67), and (1.25) are high for the benefits of paraplegic persons with incomes below 1500 NIS which means that people with low income after injury tend to use these types of coping strategies more than paraplegic persons with high income in Gaza Strip.

Table 5.9: Independent t-test comparing means of coping strategies according to income

Type of Coping strategies	Income	N	Mean	Std. D.	t	df	P. Value
Wishful thinking and avoidance	<1500	147	1.29	.63191	.185	162	.853
	>1500	17	1.26	.71764	.167		
Planful problem solving	<1500	147	1.81	.90123	-2.337	162	.021
	>1500	17	2.35	.89148	-2.357		
Reappraisal	<1500	147	1.70	.61373	.706	162	.481
	>1500	17	1.81	.47781	.860		
Affiliation	<1500	147	1.67	.63903	.944	162	.347
	>1500	17	1.51	.75848	.824		
Accepting responsibility	<1500	147	1.55	.69729	-.461	162	.645
	>1500	17	1.63	.73904	-.440		
Self-controlling	<1500	147	1.93	.77257	-.649	162	.517
	>1500	17	2.06	.77611	-.646		
Distraction and escape	<1500	147	1.25	.59280	1.736	162	.084
	>1500	17	.98	.61835	1.679		

The means of those who use Reappraisal, Accepting responsibility, and Self-controlling coping strategies are high for the benefits of paraplegic persons with incomes after injury above 1500 NIS. which means that paraplegics with high income after injury tend to use these types of coping strategies more than those with low income after injury in Gaza Strip.

Chapter 6

Conclusion and Recommendations

6.1 Conclusion

This study assesses coping strategies among paraplegic persons in Gaza Strip. This study revealed that the independent variables including, age (approximately), gender, living area, education, occupational status after injury, and income have influence on the types of coping strategies have been used by paraplegic people in Gaza Strip..

As a conclusion, according to finding of this research, factors including: masculinity, high education, employment after injury, and living in Khan Younis and approximately the group of 18-31 years old are predictors for using positive, functional, and effective types of coping strategies including: Planful problem solving, Reappraisal, Accepting responsibility, Self controlling, and approximately Affiliation, while femininity, unemployment after injury, and living in Rafah are indicators for using negative, avoidant, dysfunctional, and none effective types of coping strategies including: Wishful thinking and avoidance, and Distraction and escape.

This aim of this study was to demonstrate the differences between the types of coping strategies used by paraplegic persons in relation with the independent demographic and economical factors in order to suggest recommendations may contribute to enhance their coping. This study raised questions about how paraplegia affects the psychosocial and environmental life spheres of paraplegic persons and demonstrated strategies that facilitate

the processes of coping. This study used a holistic approach for well understanding of the coping process following paraplegia within real concepts of psychological reactions with emphasis on the socio-demographic and economical factors which may impact the process of coping. This study tried to offer a holistic picture of the impact of spinal cord injury on paraplegic persons and to explore how this impact was accommodated by them. The findings indicate that some of the respondents did cope well with the disruption caused in their lives by sustaining paraplegia while others did not. The respondents utilized a variety of coping strategies to overcome the challenges and barriers were delivered by their disabilities. It had been noticed that the effectiveness of the coping efforts of the respondents was mediated by a variety of environmental, social, and personal factors. Thus, this study highlight the complexity of the coping process and those interacting independent factors that impact on the process.

Spinal cord injury involves close family and friends but their adaptation to the changes they experience is seldom addressed in the research literature. This is particularly important in light of the evidence of the important role of social support in facilitating effective adaptation. The process of adjustment from the family's perspective requires further investigation. Given the prevalence of depression and the negative impact of depression on the adjustment process, research which focus on interventions to prevent or minimize depression and other psychological disorders are essential. We also need to develop education and screening processes, which facilitate effective treatment of depression. Alternatives to drug therapy should be investigated. The respondents used a variety of cognitive and behavioral strategies to cope with the impact of their injuries. Therapeutic programs which teach these types of strategies may have the potential to assist those who are experiencing adjustment difficulties.

Many of the respondents expressed the desire to make the world a better place for people with disabilities. It is our sincere hope that the insights gained through this study will make a contribution towards that aim.

The study did not cover other variables such as personal resources, social support and life satisfaction that may affect coping strategies. For further future research, the above-mentioned variables should be taken into a consideration.

6.2 Recommendations

Paraplegic persons in our society are in a critical need to rules and regulations to guarantee their rights and to fulfill their needs following the example of the other societies and countries. Legality for quality of life must be insured to the benefits of paraplegic persons such as: anti discrimination law, labor law, education, freedom of movement, social security, political and cultural rights, and proper household life.

According to the importance of this matter, the Palestinian law confirmed in article 21 (as mentioned in draft of the constitutional regime project for the transitional stage, 1996) for disabled persons the right in health care and rehabilitation. The Palestinian National Authority has to confirm an actual application of that by passing of new private procedural laws.

Modern techniques through rehabilitation programs should be put into effect. It is important that the rehabilitation team should have knowledge and understanding of their disabled person's perception during hospitalization and after discharge to the community. Emotional and social support are very important during periods of sadness. The supportive

strengthening and physical skill training can help paraplegic persons maintain hope and motivation, and realize their gained capacity after the rehabilitation program. In some cases, formal counseling and formal psychological support is required. In addition, enhancement of self-efficacy, including providing skills for self-management in activities of daily living, problem-solving strategies and gaining self-confidence should be emphasized in the rehabilitation program.

Efforts to be done according to the following recommendations help in having a positive impact to improve physical and psychical aspects of life for paraplegic persons and for their families also, and thereby the whole community. Based on the findings of this study policy makers, programs managers, and researchers can take the following recommendations in order to enhance the services provided for paraplegic persons:

- Employment and economical status were found to be important factors enhancing well coping. Therefore, it is recommended that the employment and subsequently satisfied economical status of the paraplegic persons must ensured.
- As findings showed that education was an important factor for coping effectively with disability, it is recommended that the responsible design makers to attach importance to the free of charge education issue for disabled persons, and mainly for paraplegic persons.
- Increase awareness of paraplegic persons as well as family members and close friends about the importance of physical activity, the dangers of substance usage including alcohol, tobacco and drugs. In addition, healthy behaviors must be induced and bad habits must be impeded.
- Family members and close friends must be involved from the beginning of the rehabilitation process of paraplegic persons for emotional support since social

support was found to be an important resource for paraplegic persons to cope well with their disabilities.

- The rehabilitation professionals are recommended to expand their services to include individualized psychotherapy in addition to physiotherapy within the rehabilitation programs of paraplegic persons. In particular, counselors, psychologists and physiotherapists have a window of opportunity for initiating psychotherapy interventions early in the rehabilitation programs. These psychotherapy interventions need to initially, be incorporated into the treatment goals of these individuals so as to address specific needs of each individual. Once the paraplegic persons are discharged back into the community, follow-up workshops in the community can be organized to assist in the formation of support groups to ensure continuity of the psychotherapy practices.
- To distribute the rehabilitation services and expand the regions that receive these services to include villages, camps, and remote areas and to avoid centralization as possible as well.
- Paraplegic persons must be well provided with the necessary aids and equipments, their context including houses, playing-fields, transportation... etc. must be adapted according to their capacities in order to give them an opportunity to emerge and share in their community daily life activity.
- Further research on:
 - Evaluation of personal resources, social support and life satisfaction among adult paraplegic persons.
 - Coping strategies among paraplegic children in Gaza governorates.

References

- Aarsæther, N., and Bærenholdt, J. O. (1998): **Coping Strategies in the North-Local Practices in the context of Global Restructuring**. Management of Social Transformations Programme (MOST), Circumpolar Coping Processes Project (CCPP), INS 1998:303, Copenhagen.
- Aldwin, C.M. (1991): "Does age affect the stress and coping process? Implications of age differences in perceived control". Journal of Gerontology: Psychological Sciences, **46**, pp. 174-180.
- Aldwin, C. M. (1994): **The California Coping Inventory**. Paper presented at the annual meetings of the American Psychological Association, Los Angeles, CA.
- Aldwin, C. M. (1999): **Stress, coping, and development: An integrative approach**. New York: Guilford.
- Aldwin, C. M., and Revenson, T.A. (1987): "Does coping help? A reexamination of the relationship between coping and mental health". Journal of Personality and Social Psychology, **53**, pp. 337-348.
- Alfred, W. G., Fuhrer, M. J., and Rossi, C. D. (1987): "Vocational development following severe spinal cord injury: a longitudinal study". Archives of Physical Medicine and Rehabilitation, **68**, pp. 854-857.
- Arthur, N. (1998a): "The effects of stress, depression, and anxiety on postsecondary students' coping strategies". Journal of College Student Development, **39(1)**, pp. 11-22.
- Baldissera, F., Hultborn, H., and Illert, M. (1981): "Integration in spinal neural system. In: Brooks, V. B., ed. Handbook of physiology. Section 1: The Nervous System. Vol. 11, Motor Control Part 1. Bethesda, MD". American Physiological Society, pp. 509-595.
- Bettelheim, B. (1943): "Individual and mass behavior in extreme situations". J. Abnormal Social Psychology, **38**, pp. 417-452.
- Biering-Sorensen, F., Pedersen, V., and Clausen, S. (1990): "Epidemiology of spinal cord lesions in Denmark". Paraplegia, **28**, pp. 105-118.
- Billings, A. G., and Moos, R. H. (1981): "The role of coping responses and social resources in attenuating the impact of stressful life events". Journal of Behavior Medicine, **4**, pp. 139-157.
- Bird, G. W., and Melville, K. (1994): **Families and intimate relationships; Stress: individual and family perspectives**. New York: McGraw-Hill.
- Boekamp, J. R., Overholser, J. C., and Schubert, D. S. (1996): "Depression following a spinal cord injury". International Journal of Psychiatry in Medicine, **26**, pp. 329-349.
- Bowling, A. (1997): **Measuring Quality of Life Open University: Milton Keynes**.

Breslow, L. (1999): "From disease prevention to health promotion". (Commentary). The Journal of the American Medical Association, **281**, pp. 1030-1035.

Brisden, S. (1986): "Independent Living and the Medical Model of Disability". In: Shakespeare, T. (ed.) (1998): The Disability Reader – Social Science Perspectives. Cassell. London, New York. Pp. 20 – 27.

Brown, J. D., Colins, R. L., and Schmidt, G. W. (1988). "Self-esteem and direct versus indirect forms of self-enhancement". Journal of Personality and Social Psychology, **55(3)**, pp. 445-453.

Buell, J. C., and Elliot, R. S. (1979): "Stress and cardiovascular disease". Modern Concepts of Cardiovascular Disease, **48 (4)**, pp. 143-146. Cited in Bartlett, D. (1998). *Stress Perspectives and processes*. Buckingham. Philadelphia: Open University Press.

Burke, D. C., and Murray, D. D. (1975): **Handbook of Spinal Cord Medicine**. Houndmills: Macmillan.

Byrne, D. (1964): "Repression-sensitization as a dimension of personality". In B. A. Maher (Ed.), Progress in experimental personality research, **1**, pp. 169-220. New York: Academic Press.

Carver, S. C., Scheier, M. F., and Pozo, C. (1992): "Conceptualizing the process of coping with health problems". In Friedman, H. S. (Ed.). Hostility, Coping and Health. Washington, D. C.: American Psychological Association. Pp. 167-187.

Carver, C. S., Scheier, M. F., and Weintraub, J. K. (1989): "Assessing coping strategies: a theoretically based approach". J Pers Soc Psychol, **56**, pp. 267-83.

Centers for Disease Control and Prevention (CDC). Safe USA. July 2002.

Chan, R. C. K. (2000): "Stress and coping in spouses of persons with spinal cord injuries". Clinical Rehabilitation, **14**, pp. 137-144.

Chan, R. C., Lee, P. W., and Lieh-Mak, F. (2000): Coping with spinal cord injury: personal and marital adjustment in the Hong Kong Chinese setting. Spinal Cord **38**, pp. 687-96.

Chase, B. W., Cornille, T. A., and English, R. W. (2000): "Cord injuries". The Journal of Rehabilitation, **66**, pp. 14-22.

Chase, B. W., and King, K. F. (1990): "Psychosocial adjustment of persons with spinal cord Injury". International Journal of Rehabilitation Research, **13(4)**, pp. 325-327.

Cohen, S. W., Frank, E., Doyle, W. J. Skoner, D. P. Rabin, B. S., and Gwaltney, J. M. (1998): "Types of stressors that increase susceptibility to the common cold in healthy adults". Health Psychology, **17(3)**, pp. 214-223.

Cohen, F. and Lazarus, R. S. (1979): "Coping with the stresses of illness". In G. C. Stone, F. Cohen, N. E. Adler, & Associates (Eds.), Health Psychology - A Handbook: Theories, Applications, and Challenges of a Psychological Approach to the Health Care System, pp. 217-254. San Francisco: Jossey-Bass.

Cohen, S., and Miller, G. E. (2001): "Stress, immunity, and susceptibility to upper respiratory infection". In: Ader, R., Felten, D.L. and Cohen, N., eds, Psychoneuroimmunology. Academic Press, New York. **2**, pp. 499–510.

Compas, B.E. (1987): "Coping with stress during childhood and adolescence". Psychological Bulletin, **101**, pp. 393-403.

Compas, B.E. (1998): "An agenda for coping research and theory: Basic and applied developmental issues". International Journal of Behavioral Development, **22**, pp. 231-237.

Costa Jr, P. T., Somerfield, M. R., and McCrae, R. R. (1996): "Personality and coping: a reconceptualization". In M. Zeidner & N. S. Endler (Eds), Handbook of Coping: Theory, Research, Applications, pp. 44-61. New York: John Wiley and Sons.

Crisp, R. (1992a): "The long term adjustment of 60 persons with spinal cord injury". Australian Psychologist, **27**, pp. 43-47.

CSTDA (Commonwealth State/Territory Disability Agreement), (2003): "Agreement between the Commonwealth of Australia and the States and Territories of Australia in Relation to Disability Services", p. 9. Australian Government Department of Family and Community Services, Canberra.

Cummings, E., Lazer, C., and Chisholm, L. (1975): "Suicide as an index for the employed and not employed married women in British Columbia". Canadian Review of Sociology and Anthropology, **12**, pp. 462-470.

Cupertino, A. P., Aldwin, C. M., and Schulz, R. (2000): **Socioeconomic status differences in religiosity and the perceived benefits of caregiving**. Paper presented at the annual meeting of the American Psychological Association, Washington, DC.

Davidoff, G., Schultz, J. S., Lieb, T., Andrews, K., Wardner, J., Hayes, C., Ward, M., Karunas, R., and Maynard, F. (1990). "Rehospitalization after initial rehabilitation for acute spinal cord injury: incidence and risk factors". Archives of Physical Medicine and Rehabilitation, **71(2)**, pp. 121-124.

Davies, D. S., and McColl, M. A. (2002): "Lifestyle risks for three disease outcomes in spinal cord injury". Clinical Rehabilitation, **16**, pp. 96-108.

Decker, S. D., and Schulz, R. (1985). "Correlates of life satisfaction and depression in middle-aged and elderly spinal cord-injured persons". American Journal of Occupational Therapy, **39(11)**, pp. 740-745.

DeJong, G., Branch, L. G., & Corcoran, P. J. (1984): "Independent living outcomes in spinal cord injury: multivariate analyses". Archives of Physical Medicine and Rehabilitation, **65(2)**, pp. 66-73.

DeVivo, M. J., and Fine, P. R. (1985): "Spinal cord injury: its short-term impact on marital status". Arch Phys Med Rehabil, **66**, pp. 501-4.

DeVivo, M. J., Kartus, P. L., Rutt, R. D., Stover, S. L., and Fine, P. R. (1990): "The influence of age at time of spinal cord injury on rehabilitation outcome". Arch Neurol, **47**, pp. 687-691.

DeVivo, M., and Richards, J. (1992): "Community Re-integration and Quality of Life Following Spinal Cord Injury". Paraplegia, **30**, pp.108-112.

Dickson, H., and Tonkin, J. (1987): **Prince Henry Hospital Injuries Handbook**. Sydney: Neil Duncan Printer.

Diener, E., Sandvik, E., Seidlitz, L., and Diener, M. (1993): "The relationship between income and subjective well-being: Relative or absolute?". Social Indicators Research; **28**, pp. 195-223.

Duggan CH, Dijkers N. (1999): "Quality of Life-Peaks and Valleys: a qualitative analysis of the narratives of persons with spinal cord injuries". Canadian Journal of Rehabilitation, **12(3)**, pp. 81-191.

Dunn, M. (1977): "Social discomfort in the patient with spinal cord injury". Archives of Physical Medicine and Rehabilitation, **58**, pp. 257-259.

Dwyer, A. L., Cummings, A. L. (2001): "Stress, self-efficacy, social support, and coping strategies in university students". Canadian Journal of Counselling, **35(3)**, pp. 208-220.

D'Zurilla, T. J. and Nezu, A. M. (1999): **Problem-solving therapy** (2nd ed.). New York: Springer.

D'Zurilla, T.J., Nezu, A.M., and Maydeu-Olivares, A. (2002): **Social Problem-Solving Inventory-Revised (SPSI-R)**. North Tonawanda, NY: Multi-Health Systems.

Elfstrom, M. L. (2003): **Coping strategies and health-related quality of life in persons with traumatic spinal cord lesion**. Goteborg: Kompendiet.

Endler, N. S., and Parker, J. D. A. (1990): **Coping Inventory for Stressful Situations (CISS): Manual**. Toronto, Canada: Multi-Health Systems.

Endler, N. S. and Parker, J. D. A. (1994): "Assessment of multidimensional coping: task, emotion, and avoidance strategies". Psychol. Assess, **6**, pp. 50-60.

Felsten, G. (1998): "Gender and coping: Use of distinct strategies and associations with stress and depression". Anxiety, Stress & Coping: An International Journal, **11(4)**, pp. 289-309.

Fleming, R., Baum, A., and Singer, J. E. (1984): "Toward an integrative approach to the study of stress". Journal of Personality and Social Psychology, **46**, pp. 939-949.

Foa, E. B., Steketee, G., and Rothbaum, B. O. (1989): "Behavioral/cognitive conceptualizations of Post-Traumatic Stress Disorder". *Behavior Therapy*, **20(2)**, pp. 155-176.

Folkman, S. (1984): "Personal control and stress and coping processes: a theoretical analysis". *Journal of Personality and Social Psychology*, **46**, pp. 839-852.

Folkman, S. and Lazarus, R.S. (1980): "An analysis of coping in a middleaged community sample". *Journal of Health and Social Behavior*, **21**, pp 219-239.

Folkman, S., and Lazarus, R.S. (1984): **Stress, appraisal, and coping**. New York: Springer.

Folkman, S., and Lazarus, R.S. (1985): "If it changes it must be a process: study of emotion and coping during three stages of a college examination". *Journal of Personality and Social Psychology*, **48**, pp, 150-170.

Folkman, S., and Lazarus, R. S. (1991): **Coping and emotion**. In A. Monat & R. S. Lazarus (Eds.), *Stress and Coping: An Anthology*. New York: Columbia University Press.

Folkman, S., Lazarus, R. S., Dunkel-Schetter, C., DeLongis, A., and Gruen, R. J., (1986): "Dynamics of a stressful encounter. Cognitive appraisal, coping, and encounter outcomes". *Journal of Personality and Social Psychology*, **50**, pp. 992-1003.

Folkman, S., and Moskowitz, J. T. (2004): "Coping: Pitfalls and promise". *Annual Review of Psychology*, **55**, pp 745-774.

Forrest, G., and Gombas, G. (1995): "Wheelchair-accessible housing: its role in cost containment in spinal cord injury". *Archives of Physical Medicine and Rehabilitation*, **76(5)**, pp. 450-452.

Frydenberg, E., and Lewis, R. (2005): **The relationship between adolescent problem solving efficacy and their coping strategy use: Boys and girls respond differently**.

Gallagher, P., and MacLachlan, M. (1999): "Psychological adjustment and coping in adults with prosthetic limbs". *Behavioral Medicine*, **25(3)**, p. 117.

Galvin, L. R., and Godfrey, H. P. D. (2001): "The impact of coping on emotional adjustment to spinal cord injury (SCI): Review of the literature and application of a stress appraisal and coping formulation". *Spinal Cord*, **39**, pp. 615-627.

Garske, G. G., and Turpin, J. O. (1998): "Understanding psychosocial adjustment to disability: an American perspective". *International Journal of Rehabilitation and Health*, **4(1)**, pp. 29-37.

Gianakos, I. (2002): "Predictors of coping with work stress: The Influences of Sex, Gender Role, Social Desirability, and Locus of Control". *Sex role*, **46**, pp. 149-157.

Go, B. K., DeVivo, M., and Richards, J. (1995): "The epidemiology of spinal cord injury". In S. L. Stover & J. DeLisa & G. Whiteneck (Eds.), Spinal Cord Injury: clinical outcomes from the model systems. P. 355. Gaithersberg: Aspen Publishers.

Godschalx, S. M. (1989): "Experiencing life with a psychiatric disability" Chronic Mental Illness: Coping Strategies ed. Maurin Slack J. T., and Thorofare, N.J., pp. 3–29.

Godshall, F., and Elliott, T. (1997): "Behavioral correlates of self-appraised problem-solving ability: problem-solving skills and health-compromising behaviors". Journal of Applied Social Psychology, **27**, pp. 929-944.

Graham, S., Furr, S., Flowers, C. and Burke, M. T. (2001): "Religion and Spirituality in Coping with Stress". Counseling and Values, **46**, pp. 2- 13.

Halligan, S.L. and R. Yehuda. (2000): "Risk Factors for PTSD". PTSD Research Quarterly **11(3)**, pp. 1-3.

Hampton, N. Z. (2001): "Disability status, perceived health, social support, self-efficacy, and quality of life among people with spinal cord injury in the People's Republic of China". International Journal of Rehabilitation Research, **24**, pp. 69-71.

Herrick, S., Elliott, T.R., and Crow, F. (1994b): "Social support and the prediction of health complications among persons with spinal cord injuries". Rehabilitation Psychology, **39**, pp. 231-250.

Harrison, C., and Kuric, J. (1989): "Community reintegration of SCI persons: problems and perceptions". SCI Nursing, **6(3)**, pp. 44-47.

Hess, D., Ripley, D., McKinley, W., and Tewksbury, M. (2000): "Predictors for return to work after spinal cord injury: a 3-year multi-center analysis". Archives of Physical Medicine and Rehabilitation, **81(3)**, pp. 359-563.

Hogan, A., McLellan, L., and Bauman, A. (2000): "Health promotion needs of young people with disabilities- a population study". Disability and Rehabilitation, **22(8)**, pp. 352-357.

Holahan, C. J., and Moos, R. H. (1987): "Risk, resistance, and psychological distress: A longitudinal analysis with adults and children". Journal of Abnormal Psychology, **96**, pp. 3-13.

Holahan, C. J., Moos, R. H., and Schaefer, J. A. (1996): "Coping, stress resistance, and growth: Conceptualizing adaptive functioning". In M. Zeidner & N. S. Endler (Eds.), Handbook of coping: Theory, research, applications, pp. 24-43. New York: John Wiley & Sons.

Hovgaard, G. (1998): **Coping with Exclusion - a North Atlantic Perspective**. In: Aarsæther and Bærenholdt "Coping Strategies in the North – Local Practices in the context of Global Restructuring". MOST, INS 1998:303, Copenhagen.

Holicky, R., and Charlifue, S. (1999): "Ageing with spinal cord injury: the impact of spousal support". Disabil Rehabil **21**, pp. 250-7.

Horesh, N., Rolnick, Z., Iancu, I., Lipkifker, E., Apter, A., and Kotler, M. (1996): "Coping styles and suicide risk". Acta Psychiatrica Scandinavica, **93**, pp. 489-493.

Hulsebosch, C. E. (2002): "Recent advances in pathophysiology and treatment of spinal cord injury". The American Physiological Society: Advances in Physiology Education, **26**, (4), pp. 238-256.

International Classification of Functioning, Disability and Health (ICF). (2001). Geneva: World Health Organization.

Inman, C. (1999): "The Effectiveness of Spinal Injury Rehabilitation". Clinical Rehabilitation, **13** (1), pp. 25-31.

Janoff-Bulman, R. (1992): **Shattered Assumptions: Towards a New Psychology of Trauma**. New York: The Free Press.

Jolley, W. (2003): **When the Tide Comes In: Towards Accessible Telecommunications for People with Disabilities in Australia**. A discussion paper commissioned by the Human Rights and Equal Opportunity Commission. http://www.hreoc.gov.au/disability_rights/communications/tide1.htm. Accessed 22.12.05.

Jones, F., and Bright, J. (2001). **Stress: Myth, theory and research**. Harlow, England: Prentice Hall.

Kahana, E., Kahana, B., Harel, Z., and Rosner, T. (1988): "Coping with extreme trauma". In J. P. Wilson & Z. Harel & B. Kahana (Eds.), Human Adaptation to Extreme Stress - from the Holocaust to Victim. Pp. 55-79. New York: Plenum Press.

Kendall, M. B., Ungerer, G., and Dorsett, P. (2003): **Bridging the gap: Transitional rehabilitation services for people with spinal cord injury**. Disability and Rehabilitation, **25**, 1008-1015.

Kennedy P, Lowe R, Grey N, Short E. (1995): "Traumatic Spinal Cord Injury and Psychological Impact: a cross-sectional analysis of coping strategies". British Journal of Clinical Psychology, **34**, pp. 627-639

Kerr, W., and Thompson, M. (1972): "Acceptance of disability of sudden onset in paraplegia". Paraplegia, **10**, pp. 94-102.

Kilbury, D. W. et al., (1996): "Impact of physical disability and gender on personal space". Journal of Rehabilitation, **62**(2), pp. 59-64.

King, G. A., Shultz, I. Z., Steel, K., Gilpin, M. and Cathers, T. (1993): "Self evaluation and self-concept of adolescents with physical disabilities". American Journal of Occupational Therapy, **47**(2), pp. 132-140.

Kleiber, C., Montgomery, L. A., and Craft-Rosenberg, M. (1995): "Information needs of the siblings of critically ill children". Children's Health Care, **24**, pp. 47-60.

- Kramer, B. J. (1993). "Expanding the conceptualization of caregiver coping: The importance of relationship-focused coping strategies". Family Relations, **42**, pp. 383-391.
- Krause, J. S., and Crewe, N. (1990): "Long term prediction of self-reported problems following spinal cord injury". Paraplegia, **28**, pp. 186-202.
- Krause, J. S., Kemp, B., and Coker, J. (2000): "Depression after spinal cord injury: relation to gender, ethnicity, aging, and socioeconomic indicators". Arch Phys Med Rehabil **81**, pp. 1099-109.
- Lazarus, R. S. (1966): **Psychological stress and the coping process**. New York: McGraw-Hill.
- Lazarus, R. S. (1993). "Coping theory and research: Past, present, and future". Psychosomatic Medicine, **55**, pp. 234-247.
- Lazarus, R. S. (1999): "Stress and Emotion: A New Synthesis". New York, NY: Springer. Pp. 129–164.
- Lazarus, R. S. (2000): "Toward better research on stress and coping". American Psychologist, **55**, pp. 665-673.
- Lazarus, R. S., and Folkman, S. (1984): **Stress, appraisal and coping**. New York, NY: Springer.
- Lazarus, R. S. and Folkman, S. (1984a): **Stress, appraisal, and coping**. New York: Springer Publishing.
- Lazarus, R. S., Folkman, S. (1987): "Transactional theory and research on emotions and coping". Eur J Pers. **1**, pp. 141-69.
- Lazarus, R. S., and Folkman, S. (1991): **The concept of coping**. In A. Monat & R. S. Lazarus (Eds.), *Stress and Coping: An Anthology*. New York: Columbia University Press.
- Leventhal, E. A., Suls, J., and Leventhal, H. (1993): "Hierarchical analysis of coping: Evidence from life-span studies". In H. W. Krohne (Ed.), Attention and Avoidance. Pp. 71-99. Seattle, WA: Hogrefe & Huber.
- Levins, S. M., Redenbach, D. M., Dyck, I. (2004): "Individual and societal influences on participation in physical activity following Spinal cord injury: a qualitative study". Physical Therapy, **84**, pp. 496-510.
- Lewin, K. A. (1936): **Principles of topological psychology**. New York: McGraw-Hill.
- Lindsey, L. (1999): **Spinal Cord Injury - InfoSheet #4: Understanding Spinal Cord Injury**, [Factsheet]. University of Alabama - Spain Rehabilitation Center [2000, June 14, 2000].
- Livneh, H. (1999): "Psychosocial adaptation to heart diseases: the role of coping strategies". The Journal of Rehabilitation, **65(3)**, pp. 24-40.

Livneh, H., and Antonak, R. F. (1997): "Psychosocial Adaptation to Chronic Illness and Disability", p. 26. Aspen Publication.

Lowenthal, M. F., Thurnher, M., □ and Chiriboga, D. (1975): **Four stages of life**. San Francisco: Jossey-Bass.

Mabbett, D. (2005)): "The Development of Rights-based Social Policy in the EU: The Example of Disability Rights". JCMS, **43(1)**, pp. 95-118.

Malia K., Powell G., Torode S. (1995): "Coping and psychosocial function after brain injury". Brain Inj. **9**, pp. 607-618.

Maslach, C. and Jackson, S. E. (1993): **Maslach Burnout Inventory Manual**. Palo Alto, CA: Consulting Psychologists Press, seven printing.

Matsebula, S. (2003). **A message from the Director**. Our Voice, 1(1).

Maynard, F. M., Karunas, R. S., and Waring, W. Pd. (1990): "Epidemiology of spasticity following traumatic spinal cord injury". Arch Phys Med Rehabil, **71**, pp. 566-9.

Medical Rehabilitation Research and Training Center in Secondary Complications in Spinal Cord Injury. (1996): **Learning About Spinal Cord Injury**. Birmingham: University of Alabama.

Meyers, A., Mitra, M., Walker, D., Wilber, N. and Allen, D. (2000): "Predictors of secondary conditions in a sample of independently living adults with high-level spinal cord injury". Topics in Spinal Cord Injury Rehabilitation. **6(1)**, pp. 1-7.

Mayo Foundation for Medical Education and Research, 1998-2006.

Mitchill, M.,and Joley, J. (1996): **Research design explained 3rd ed. Forth Worth**; Harcourt Brace College Publishers.

Middleton, J. W., and Tate, R. L. (2003): "Self-efficacy and spinal cord injury: Psychometric properties of a new scale". Rehabilitation Psychology, **48(4)**, pp. 281-288.

Mikulincer, M., Florian, V., and Weller, A. (1993): "Attachment styles, coping strategies, and posttraumatic psychological distress: The impact of the Gulf War in Israel". Journal of Personality and Social Psychology, **64**, pp. 817-826.

Ministry Of Health, (2004): "Disability in Northern and Middle Gaza, 2002". Annual Report, (2003). A report of field screening and registration 11 May-26 August 2002, p. 6.

Ministry Of Health, (2005): "Primary Health Care". Annual Report, 2004, p. 2-35.

Monat, A., and Lazarus, R. S. (Eds.). (1991): **Stress and Coping: An Anthology** (3 ed.). New York: Columbia University Press.

Moos, R., and Billings, A. (1982): "Conceptualizing and measuring coping resources and processes". In L. Goldberger & S. Breznitz (Eds.), **Handbook of stress: Theoretical and clinical aspects**, pp. 212-130. New York: Free Press.

Moos, R. H., & Schaefer, J. A. (1993): "Coping Resources and processes: Current Concepts and Measures". In L. Goldberg and S. Breznitz (Eds.), Handbook of Stress: Theoretical and Clinical Aspects 2nd Edition, pp. 234-257. New York: Free Press.

Nahas, M. V., Goldfine, B., and Collins, M. A. (2003): "Determinants of physical activity in adolescents and young adults: the basis for high school and college physical education to promote active lifestyles". Physical Educator, **60**, pp. 42-57.

National Spinal Cord Injury Statistical Center. (2005). **Spinal cord injury: facts and figures at a glance**. Birmingham, Alabama: UAB Department of Physical Medicine & Rehabilitation, Spinal Rehabilitation Center.

Noreau L, Dion S-A, Vachon J, Gervais M, Laramée M-T. (1999): Productivity outcomes of individuals with spinal cord. Spinal Cord, **37**, pp. 730-736.

North, N. T. (1999): "The psychological effects of spinal cord injury: a review". Spinal Cord, **37**, pp. 671-679.

O'Hare, P. and Hall, K. M. (1997): "Preventing spinal cord injuries through safety education programs". (Spinal Cord Injury, Part 3). American Rehabilitation, **23**, pp. 15-19.
Oliver, M. (1996): "The social model in context", **Understanding Disability from Theory to Practice**, pp. 30-42. Maxmillan Press.

Ollenburger, J. C. and H. A. Moore. (1998). **A Sociology of Women: The Intersection of Patriarchy, Capitalism and Colonization**. Englewood Cliffs, NJ: Prentice Hall.

Ollenburger, J. C. and Tobin, G. A. (1998): "Women's Post-Disaster Stress". In The Gendered Terrain of Disasters: Through Women's Eyes, eds. E. Enarson and B. H. Morrow, pp 95-107. Westport, CT: Praeger.

Pargament, K. (1997): **The Psychology of Religion and Coping: Theory, Research, Practice**. New York: Guildford.

Pentland, W., McColl, M. A., and Rosenthal, C. (1995): "The effect of aging and duration of disability on long-term health outcomes following spinal cord injury". Paraplegia, **33**, pp. 367-373.

Pickett, W., Chipman, M. L., Brison, R. J., and Holness, L. L. (1996): "Medications as risk factors for farm injury". Accid. Anal. And Prev. **28(4)**, pp. 453-462.

Pinel, J. P. T. (2003): **Biopsychology (5th ed)**. United States of America: Allyn and Bacon.

Putzke, J. D., Richards, J. S., and DeVivo, M. J. (2000). "Predictors of pain 1 year postspinal cord injury". The Journal of Spinal Cord Medicine, **24(1)**, pp. 47-53.

Richards, J. S., Kewman, D. G., and Pierce, C. A. (2000): "Spinal cord injury". In R.G. Frank, & T.R. Elliott (Eds.), Handbook of Rehabilitation Psychology, pp. 11-28. Washington, DC: American Psychological Association.

Robinson, B. (2002): **Effects of visual impairment, gender and age on self-determination of children who are blind**. Unpublished masters thesis, SUNY Brockport, Brockport, NY, 2002.

Rodin, J. (1986): "Aging and health: Effects of the sense of control". Science, **233**, pp. 1271-1276.

Roskies, E. (1991): "Individual differences in health behaviour". In C. L. P. Cooper, Roy (Ed.), Personality and stress: Individual differences in the stress process, pp. 235-266. New York: John Wiley & Sons.

Roy- Bryne, P. P., Vitaliano, P. P., Cowely, D. S., Luciano, G. B. S., Zheng, Y. and Dunner, D. L. (1992): "Coping in panic and major depressive disorder relative effects of symptom severity and diagnostic comorbidity". Journal of Nervous and Mental Disease, **180**. Pp 179-183. Cited in Sorlie, T. and Sexton, H. C. (2000): The factor structure of .The Ways of Coping Questionnaire. and the process of coping in surgical patients. Personality and Individual Differences, 30(6), pp. 961-975.

Ryff, C. D. (1989): "Happiness is everything, or is it? Explorations on the meaning of psychological well-being". Journal of Personality & Social Psychology, **57(6)**, pp. 1069-1081.

Saravanan, B., Manigandan, C., Macaden, A., Tharion, G., and Bhattacharji, S. (2001): "Re-examining the psychology of spinal cord injury: a meaning centered approach from a cultural perspective". Spinal Cord, **39**, pp. 323-326.

Scherer, K. R., Schorr, A., and Johnstone, T. (2001): **Appraisal Processes in Emotion**. Oxford University Press.

Scivoletto, G., Petrelli, A., Di Lucente, L. and Castellano, V. (1997): "Psychological investigation of spinal cord injury patients". Spinal Cord, **35**, pp. 516-20.

Schultz, R., and Decker, S. (1985): "Long-term adjustment to physical disability: the role of social support, perceived control, and self-blame". Journal of Personality and Social Psychology, **48(5)**, pp. 1162-1172.

Senelick R.C., and Dougherty, K. (1998). **The Spinal Cord Injury Handbook: for patients and their families**. Birmingham, AL: HealthSouth Press.

Shingu, H., Ikata, T., Katoh, S., Akatsu, T. (1990): "Spinal cord injuries in Japan: a nationwide epidemiological survey in 1990". Paraplegia, **32**, pp. 3-8.

Singer, P. (1993): "Taking Life: Humans". Practical ethics. 2nd edition, Cambridge University Press, pp. 175-217.

Solomon, R. (1996): "Coping with stress: A physician's guide to mental health in aging". Geriatrics, **51(7)**, pp. 46-51.

Solomon, S. D., Regier, D. A., and Burk, J. D. (1989): "Role of perceived Control in Coping with Disaster". Journal of Clinical Psychology, **8**. Pp 376-392.

Somers, M.F. (1992): **Spinal Cord Injury: Functional Rehabilitation**. Connecticut: Appleton & Lange.

Spaccarelli, S. (1994): "Stress, appraisal, and coping in child sexual abuse: A theoretical and empirical review". Psychological Bulletin, **2**, pp. 340–362.

Spinal Cord Injury Information Network. (2000, July). **Understanding spinal cord injury & functional goals**. Info sheet # 4. [online]. Available from: <http://images.main.uab.edu/spinalcord/pdffiles/info-4.pdf> [Accessed October 11 2005].

Spinal Cord Injury Information Network. (2004, April). **Adjustment to spinal cord injury**. Info sheet # 20. [online]. Available from: <http://images.main.uab.edu/spinalcord/pdffiles/20Adjust.pdf> [Accessed October 11 2005].

Steele, C. A., Kalnins, I. V., Jutai, J. W., Stevens, S. E., Bortolussi, J. A., and Biggar, W. D. (1996). "Lifestyle health behaviours of 11- to 16-year-old youth with physical disabilities". Health Education Research, **11(2)**, pp. 173-186.

Stineman M. G. (2001): "Defining the population, treatments, and outcomes of interest: reconciling the rules of biology with meaningfulness". American Journal of Physical Medicine & Rehabilitation, **80(2)**, pp. 147-159.

Stuifbergen, A. K., and Rogers, S. (1997): "Health promotion: An essential component of rehabilitation for persons with chronic disabling conditions". Advances in Nursing Science, **19**, pp. 1-20.

Suls, J., and Fletcher, B. (1985): "The relative efficacy of avoidance and nonavoidance coping strategies". A meta-analysis. Health Psychology, **4**, pp. 249-288.

Tapsell, S. M., Penning-Rowsell, E. C., Tunstall, S. M., and Wilson, T. L. (2002): "Vulnerability to Flooding: Health and Social Dimensions". Philosophical Transactions of the Royal Society, **360**, pp. 1511-1525.

Taricco M, et al. (1992): "The social and vocational outcome of spinal cord injury patients". Paraplegia, **30**, pp. 214-219.

Tate, D.G. (1993): "Alcohol use among spinal cord injured patients". American Journal of Physical Medicine and Rehabilitation, **72**, pp. 192-195.

Thabit, A. A., Tishler, V., and Vostanis, P. (2004): "Maltreatment and coping strategies among male adolescents living in Gazxa Strip". Child abuse and neglect journal, **28**, pp. 77-91.

The Palestinian Central System for Census, (2002): **Screening of the impact of the Israeli procedures on the state of the Palestinian child, woman and family**. Press conference on results of screening. Ramallah-Palestine.

Thurman, D. J., Sniezek, J. E., Johnson, D., Greenspan, A., and Smith, S. M. (1995a): **Guidelines for Surveillance of Central Nervous System Injury**. Atlanta: US Department of health and Human Services, Centers for Disease Control and Prevention.

Tobin, G. A., and Ollenburger, J. C. (1994): "An Examination of Stress in a Flood-Prone Environment". Papers and Proceedings of Applied Geography Conferences, **17**, pp. 74-81.

Trieschmann, R. B. (1988): "Spinal Cord Injuries: Psychological, Social and Vocational Rehabilitation" (Second ed.), p. 42. New York: Demos.
U. N. Declaration was certified on (1969, p.156).

Urey, J. R., and Henggeler, S. W. (1987): "Marital adjustment following spinal cord injury". Arch Phys Med Rehabil, **68**, pp. 69-74.

Vitaliano, P. P., Dewolfe, D. J., Maiuro, R. D., Russo, J., and Katon, W. (1990): "Appraisal changeability of a stressor as a modifier of the relationship between coping and depression". A test of the hypothesis of it. Journal of Personality and Social Psychology, **59**, pp. 582-592.

Warren, L., Wrigley, J. M., Yoels, W. C., and Fine, P. R. (1996): "Factors associated with life satisfaction among a sample of persons with neurotrauma". J Rehabil Res Dev, **33**, pp. 404-8.

Waters, R. L., Yakura, Y. S., Adkins, R. H., Sie, I. (1992): "Recovery following complete paraplegia". Arch Phys Med Rehabil, **73**, pp. 784-789.

Waters, R. L., Adkins, R. H., Yakura, J. S., Sie, I. (1993): "Motor and sensory recovery following complete tetraplegia". Arch Phys Med Rehabil, **74**, pp. 242-247.

Waters, R. L., Adkins, R. H., Yakura, J. S., Sie, I. (1994): "Motor and sensory recovery following incomplete paraplegia". Arch Phys Med Rehabil, **75**, pp. 67-72.

Welch R. D., Lobley S. J., O'Sullivan S. B., Freed M. M. (1986): "Functional independence in quadriplegia: critical levels". Arch Phys Med Rehabil, **67**, pp. 235-240.

Westgren, N., and Levi, R. (1998): "Quality of life and traumatic spinal cord injury". Archives Physical Medicine and Rehabilitation, **79**, pp. 1433-1439.

White Paper on an Integrated National Disability Strategy, (1997). Office of the Deputy President, Pretoria.

Wineman, N. M., Durand E. J., Steiner R. P. (1994): "A comparative analysis of coping behaviors in persons with multiple sclerosis or a spinal cord injury". Res Nurs Health, **17**, pp. 185-194.

Winningham, M. (2001): "Strategies for managing cancer-related fatigue syndrome". A rehabilitation approach. *Cancer* 92 (4 Suppl) Aug. pp. 988-97.

Wood-Dauphinee, S., Exner, G., and the SCI Consensus Group, (2002): "Quality of life in patients with spinal cord injury - basic issues, assessments, and recommendations". Restorative Neurology and Neuroscience, **20**, pp. 135-149.

Woodrich, F., and Boland Patterson, J. (1983): "Variables related to acceptance of disability in persons with spinal cord injuries". Journal of Rehabilitation, pp. 26-30.

World Bank, (2003): **Tow Years of Intifada, closures and Palestinian Economic Crisis An Assessment**, Eastern Jerusalem.

World Health Organization, (2001): **International Classification Functioning, Disability and Health (ICF)**. Geneva: World Health Organization.

World Health Organization, (2003): **World Health Organization**. Mental Health. http://www.who.int/mental_health/ The global burden of disease.

World Health Organization, (2004). **World Health Organization**. Mental Health. http://www.who.int/mental_health/management/depression/definition/en/. Accessed 10/08/04.

Yarkony, G. M. (1994): "Overview of spinal cord injury rehabilitation in the acute phase, the rehabilitation team, and classification of spinal cord lesion". In G.M. Yarkony (Ed.), Spinal Cord Injury: Medical Management and Rehabilitation, pp. 3-8. Gaithersburg, MD: Aspen Publishers, Inc.

Zarit, S., Todd, P., and Zarit, J. (1986): "Subjective burden of husbands and wives as caregivers: A longitudinal study". The Gerontologist, **26**, pp. 260-266.

Annex 1

**Helsinki Committee
approval letter**

.Annex 2

Approval letter

Annex 3

Explanatory cover letter Arabic version

موافقة على إجراء استبيان حول دراسة "استراتيجيات التأقلم للمرضى المصابين بشلل نصفي في قطاع غزة"

أنا الطالب/ إبراهيم محمد شكشك، أدرس في برنامج ماجستير الصحة النفسية المجتمعية ضمن إطار الصحة العامة التابع لجامعة القدس – أبو ديس، وفي إطار البرنامج المذكور يجب تنفيذ بحث لتقديمه كأطروحة التخرج. ولهذا الغرض، فقد وافقت الجامعة على دراسة "استراتيجيات التأقلم للمرضى المصابين بشلل نصفي في قطاع غزة". ومن المتوقع أن تساعد المعلومات المزمع جمعها في هذه الدراسة مقدمي الخدمات وأصحاب القرار في دوائر عديدة بحيث يعود بالخير على مرضى الشلل النصفي بشكل خاص والمجتمع الفلسطيني بشكل عام

- نقدر ونشمن وقتكم ولذلك فإن المدة التي تستغرقها الإجابة على هذا الاستبيان لا تزيد عن ربع ساعة فقط
- المشاركة في هذا البحث تطوعية، ولك الحق في رفض أو قبول المشاركة أو الانسحاب وقتما تشاء مع التأكيد على سرية أية معلومات يتم الحصول عليها والتتويه على أن استخدامها هو للأغراض العلمية التي تفيدها المصلحة العامة.

- البحث ممول من قبل الباحث فقط ولا توجد أية جهات ممولة.

ولكم مني جزيل الشكر

توقيع جامع المعلومات

التاريخ

توقيع المشارك

Annex 4

Explanatory Cover Letter

English Version

Consent form and covering letter

Coping strategies among paraplegic patients in Gaza Strip

Serial No.:

Code No.:

Dear Participant:

You are chosen to participate for this research "Coping strategies among paraplegic patients in Gaza Strip". This study is being carried out as a part of the requirement for the degree of community mental health at Al-Quds University, School of public health- Palestine.

This study is expected to provide us with results and information which could help health providers and policy makers in our country in planning and improving the services provided especially to the paraplegic patients in Gaza Strip and generally to our Palestinian society as a whole.

You have the right to accept or refuse the interview, taking in account that confidentiality will be provided and maintained. No need to write your name.

I appreciate your participation, and appreciate your valued time as you need no more than 15 minuets to fill the questionnaire.

This study is self-funded and the researcher obtained consent from the concerned committee.

The researcher

Ibrahim Moh. Shakshak

Date

Annex 5

The questionnaire in Arabic

الرقم	السؤال	لم أفعل ذلك	فعلته قليلاً	فعلته أحياناً	فعلته كثيراً
1	رفضت أن أصدق بأن هذا قد حدث				
2	تجنبيت كل الناس				
3	تمنيت حدوث معجزة				
4	كان لدي بعض الخيال عن الكيفية التي ستنتهي عليها الأمور				
5	فرغت غضبي وانفعالي في الآخرين				
6	كانت عندي رغبة في أن يتغير الوضع الذي أنا فيه أو ينتهي بأي طريقة				
7	حاولت نسيان كل الأمر				
8	لقد كنت أعرف ما ينبغي أن أفعله ولذلك ضاعفت جهودي من أجل تفعيل الأمور				
9	لقد وقفت صلباً وناضلت لتحقيق ما أريد				
10	لقد واصلت وكان شيئاً لم يحصل				
11	لقد وضعت خطة عمل وقمت باتباعها				
12	لقد ركزت فقط على ما سأفعله بعد ذلك				
13	استرجعت خبرتي السابقة عندما مررت بموقف عصيب قبل ذلك				
14	لقد تغيرت أو نمت شخصيتي بطريقة جيدة				
15	تحدثت لآخرين ممن يستطيعون فعل شيء ملموس تجاه مشكلتي				
16	حاولت النظر إلى الجانب المشرق للأمور				
17	لقد راجعت في ذهني ماذا سأقول أو أفعل				
18	لقد أخذت فرصة كبيرة بالرغم من أن الأمر خطير جداً				
19	لقد اكتشفت مجدداً ما هو المهم في الحياة				
20	لقد غيرت بعض الأشياء ولذلك فإن الأمور ستتجه نحو الأفضل				
21	لقد صليت وتضرعت إلى الله				
22	أعتقد أن تجربة إعاقتي جعلتني أقوى من ذي قبل				
23	تحدثت إلى آخرين للحصول على معلومات أكثر عن إعاقتي				

				حاولت أن لا أتصرف بعجلة وتسرع وأن لا أسير تبعاً لهواجسي	24
				طلبت النصح من شخص أجله وأحترمه	25
				لقد تقبلت التعاطف والتفهم من البعض	26
				لقد سألت من أجل النصيحة	27
				لقد غيرت بعض الأمور في ذاتي	28
				قمت بفعل بعض الأشياء لإصلاح الأمر	29
				لقد انتقدت نفسي	30
				لقد وعدت نفسي بأن الأمور ستكون مختلفة بعد ذلك	31
				لقد تأكد لي أنني أتحمّل بعض المسؤولية عن إعاقتي	32
				حاولت أن لا أترك مشاعري تتعارض كثيراً مع الأمور الأخرى	33
				لقد فكرت في شخص أقدره وأجله لو كان في وضعي كيف سينصرف	34
				حاولت أن لا أحرق كل الجسور فتركت الأمور مفتوحة	35
				لم أخبر الآخرين كم كانت الأمور سيئة	36
				أحاول أن أنسى كل الأمور المزعجة	37
				أحاول أن أحتفظ بمشاعري لنفسي	38
				أحاول فعل أي شيء حتى لو لم يكن كافياً	39
				لقد نمت أكثر من المعتاد بكثير	40
				لقد سلمت بالقضاء والقدر، فقط كان حظي سيئاً	41
				لقد حاولت التغلب على مشاعري بواسطة الأكل والتدخين أو استخدام بعض الأدوية	42
				رفضت التفكير في المسألة كلها	43
				أظهرت غضبي للأشخاص الذين اعتقدت أنهم تسببوا في إعاقتي	44

Annex 6

The questionnaire in English

S. N.	Question	Not used	Used a little	Used some times	Used a great deal
1	Refused to believe that it happened				
2	Avoided being with people in general				
3	Hoped miracle would happen				
4	Had fantasies about how things might turn out				
5	Took it out on other people				
6	Wished that the situation would go away or somewhat be over with				
7	Tried to forget the whole thing				
8	I know what had to be done, so I doubled my efforts to make things work				
9	Stood my ground and fought for what I wanted				
10	Went on as if nothing had happened				
11	I made a plan of action and followed it				
12	Just concentrated on what I had to do next				
13	Drew on my past experience, when I was at in a difficult position before				
14	Changed or grew as a person in a good way				
15	Talked to somebody who could do something concrete about the problem				
16	Tried to look on the bright side of things				
17	I went over in my mind what I would say or do				
18	Took a big chance, even something very risky				
19	I rediscover what is important in life				
20	Changed something so things would turn out all right				
21	I prayed				
22	Thought that the experience makes me stronger than before				

23	I talked to someone to find out more information				
24	I tried not to act hastily or follow my first hunch				
25	I asked a person I respected for advice				
26	Accepted sympathy and understanding from somebody				
27	I asked for advice				
28	I change something about myself				
29	I apologized or did something to make up				
30	I criticize myself				
31	I promised myself that things would be different next				
32	Realized that I have some responsibility of my problem				
33	I tried to keep my feelings from interfering with other things too much				
34	I thought about how a person I admire would handle the situation				
35	Tried not to burn my bridges, but leave things open				
36	Kept others from knowing how bad things were				
37	I try to forget all disturbing things				
38	I try to keep my feelings to my self				
39	I try to do something, even if not significant, but something				
40	Slept much more than usual				
41	Went along with the fate: I just had bad luck				
42	I tried to feel better by eating, smoking, and using medication				
43	I refused to think about the whole issue				
44	I express anger to the persons I believe who caused the problem				

Annex 7

Socio-demographical Characteristics

S. N.:

Age:

Sex:

Living Area:

Marital Status:

Educational Level:

Employment status: 1- before injury:

2- after injury:

Average monthly income:

Annex 8

البيانات الديموغرافية للمشارك

رقم المشاركة:

العمر:

الجنس:

أنثى

ذكر

منطقة السكن:

شمال غزة

غزة

المنطقة الوسطى

خانيونس

رفح

الحالة الاجتماعية:

أعزب

متزوج

أرمل

مطلق

المستوى التعليمي:

غير متعلم

6-1

9-7

12-10

+12

الحالة الوظيفية: 1- قبل الإصابة:

يوجد عمل

لا يوجد عمل

2- بعد الإصابة:

يوجد عمل

لا يوجد عمل

معدل الدخل الشهري:

Annex 9
Reliability Alpha

RELIABILITY ANALYSIS – SCALE (ALPHA)

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	115.7485	308.7326	17.5708	44

Reliability Coefficients

N of Cases = 164.0

N of Items = 44

Alpha = .8393