

Assessment of Spinal Cord Injured Persons' Quality of Life

Diaa K. Abed Ali/ Lecturer Assistance, Department of Adult Nursing, College of Nursing, University of Kufa

Dr. Narmeen B. Tawfiq / PhD. Prof. and Academic Supervisor, Department of Adult Nursing, College of Nursing, University of Baghdad

الخلاصة

تعد مشكلة صحية عالمية كونها تصيب ملايين وتنتسبب أما بموتهم أو بإعاقتهم أعاقة شديدة تلازمهم مدى حياتهم.

أهداف الدراسة لتقييم نوعية حياة الذين يعانون من

منهجية البحث أجريت دراسة وصفية

2010.. اختيرت عينة غير احتمالية "غرضية" (100) شخص مصاب يراجع العيادة الخارجية في مستشفى ابن القف لاصابات الحبل 6 اشهر كحد ادنى بعد خروجهم من المستشفى لغرض المتابعة الطبية والتأهيل 20 2009 ولغاية 20

جزء شمل الصفات الديموغرافية الاجتماعية و يحتوي (9)

شمل الصفات السريرية المكون من (10) فقرات و جزء شمل الجوانب الحياتية من ستة جوانب اساسية وهي الجسمي

مستوى الاستقلالية البيئي حددت ثباتية استمارة الاستبانة من خلال اجراء الدراسة المصغرة و حددت مصداقيتها من خلال مجموعة مكونة من (15) خبير. تم وصف وتحليل البيانات باستخدام اساليب الاحصاء

النتائج أظهرت نتائج الدراسة ان على جوانب حياة الاشخاص المصابين التأثير الاكبر ضهر من خلال متبوعا بجانب مستوى الاستقلالية

الجانب الروحي ثم البيئي. كما و اظهرت النتائج بوجود علاقة معنوية بين جوانب حياة الاشخاص الذين يعانون من اصابات الحبل الشوكي (الحالة الزوجية بعد الاصابة المستوى التعليمي الحالة المهنية بعد الاصابة الحالات المرضية المرافقة زيارات المتابعة الطبية الزيارات الى المعالج الطبيعي) و عدم وجود علاقة معنوية بين جوانب حياة الاشخاص المصابين و (الحالة الزوجية قبل الاصابة المهنية ق الحالة الاجتماعية الاقتصادية) .

الاستنتاجات استنتجت الدراسة ان اصابات الحبل الشوكي شائعة الحدوث عند الاشخاص المقيمين في المناطق الحضرية عن اولئك سكنة المناطق الريفية.

العلاقة الزوجية للأشخاص. ايضا اكدت الدراسة على ان اصابات الحبل الشوكي تؤثر على استمرارية اعمال الاشخاص.

اعطت الدراسة مؤشرا على ان الشدة الخارجية هي من اكثر الاسباب المؤدية لاصابات الحبل الشوكي.

النصفي يعتبر من اكثر مستويات الاصابة اكثر من الثلث الرابعي. ايضا الاصابات ذات القطع الغير كامل تعتبر من اكثر انواع الاصابات.

و ان اصابات الحبل الشوكي تترافق مع عدد من المضاعفات تشمل جميع اجهزة الجسم.

التوصيات تشمل عينة كبيرة لتقييم نوعية حياة الاشخاص الذين يعانون من عمل برامج تثقيفية مركزة وشاملة لدعم معارف و مهارة الممرضين بخصوص تدابير وتأهيل الاشخاص الذين يعانون من اصابات الحبل الشوكي.

ائل التوعية الصحية لزيادة وعي المجتمع حول اصابات الحبل الشوكي.

Abstract

Spinal cord injuries are a global health problem, which strikes millions of people worldwide, and causing either a lifetime severs disability or death.

Objectives To assess spinal cord injured persons quality of life.

Methodology A descriptive quantitative study is carried out at Ibn AL-Kuff Hospital for spinal cord injuries, started from December 20th, 2009 to July 20th, 2010. A non-probability (Purposive sample) of (100) spinal cord injured persons, who were clients of Ibn AL-Kuff hospital for spinal cord injuries/ outpatient clinic after at least 6 months after their discharged from the hospital for medical follow-up and rehabilitation, within 16 years old or more. The data are collected through the use of semi-constructed questionnaire, which consists of three parts (1) Socio-demographic data form that consist 9-items (2) clinical characteristics form that consist of 10-items and (3) Main domains of the quality of life, which consist of six main domains: physical, psychological, level of independence, social, environmental, and spiritual domain, by means of direct interview technique with the spinal cord injured persons. Reliability of the questionnaire is determined through a pilot study and the validity through a panel of (15) experts. The data were described statistically and analyzed through use of the descriptive and inferential statistical analysis procedures.

Results The findings of the present study indicate that the spinal cord injury affect the quality of life domains. The maximal affect presented by the social domain, followed by the level of independence domain, the psychological domain, then the physical domain. While the minimal effect, presented by spiritual domain, followed by the environmental domain. There is a significant relationship between

gender, age, marital status after injury, level of education, occupational status after the injury, levels of injury, types of injury, duration of injury, associated diseases, follow-up and physiotherapist visits, use of assistive aids, and the possible complications after injury and quality of life domains. There is a non-significant relationship between residence, marital status before injury, occupational status before injury, socio-economic status, and causes of injury and quality of life domains.

Conclusion The study concludes that the spinal cord injury most common occurs among persons in urban residential area than in those in rural. Spinal cord injury most occurs in male than in females. Spinal cord injury does not affect the continuity of the person's marital relationships. Also the study confirmed that the spinal cord injury affects negatively on the continuity of the persons jobs. In addition, the study indicates that the external trauma is the most common cause of the spinal cord injury. Moreover, paraplegic injury is the most common level in spinal cord injuries than tetraplegics injury. Also the incomplete injury is the most common type of spinal cord injuries. And, the spinal cord injury associated with many complications involves all the body systems.

Recommendations The study recommends that an intensive comprehensive wide population-based studies be conducted to assess the spinal cord injured persons' quality of life. Also, an intensive comprehensive wide population-based education programs be conducted to support the nurses' knowledge and practice toward spinal cord injury management and rehabilitation. And health oriented mass media approach should be employed by the Ministry of Health to increase population knowledge and awareness of spinal cord injury. Health oriented mass media approach should be employed by the Ministry of Health to increase population knowledge and awareness of spinal cord injury.

Key wards: assessment, spinal cord injuries, quality of life

INTRODUCTION

Spinal cord injuries are a life-altering experience not only for the person with injury, but also for spouses, parents, siblings, and children of the person ⁽¹⁾. Also the Spinal cord injuries (SCIs) refer to the significant cause of morbidity and mortality, especially among teenagers and young adults. The lack of effective treatments to repair the neurological dysfunctions below the level of injury that affects the patient's health status in physical, psychological, and social circumstances, mean that most victims experience years of lost independence and continued medical expenses. The injury to the spinal cord can be a devastating neurological disorder and cause disability and the associated complications that involve all the body systems ⁽²⁾.

There are some distinctions between the important concepts: impairment, disability, and handicap, revised by the WHO models, Impairment occurs at the organic level and represents any loss or abnormality of physiological, or anatomical structures, For example, loss of muscle strength and range of motion (ROM). Disability occurs at the individual level and represents any restriction or lack of ability to perform any activity in the manner or within the range considered typical for a human being, For example, loss of ability to walk. And handicap, occurs at the societal level and represents disadvantages that limit or prevent fulfillment of a role that is typical (depending on age, gender, social, and cultural factors). For example, handicap reflects limitations that result from the lack of accessibility to buildings or sidewalk curbs ⁽³⁾.

Spinal cord injuries are often thought of as of the most severe types of injuries resulting in dramatic change in all aspects of the individuals' life and having significant impact on their family and friends ⁽⁴⁾. Also the loss of control over the body functions and altered life style secondary to paralysis can be caused by spinal cord injuries, as evidenced by verbalization of inability to cope, expression of anger or other negative feelings ⁽⁵⁾.

There are many devastating consequences associated with spinal cord injuries, including, paralysis of the arm, legs, or both; loss of the ability to walk; loss of bladder, bowel, and sexual functions and these consequences will affect the QOL of

injured persons ⁽⁶⁾. In addition to the physical disability, SCIs affect self- esteem and partner relationships ⁽⁷⁾, in addition it is considered as critical emergencies that must be recognized and treated early to increase the possibility of preventing permanent loss of functions ⁽⁸⁾, and there are four main objectives in the treatment and nursing care of the patients with injuries of the spinal cord are: to save the victims' life, to prevent further injuries to the cord by careful handling of the victims, to repair as much of the damage to the cord as possible, to establish a routine of care that will improve and maintain the patients state of health and prevent complication, so that eventual physical, mental, and social rehabilitation is possible ⁽⁹⁾.

The life expectancy for persons with spinal cord injuries ranged from months to 10 years, that was before World War ⁽⁵⁾. While today, with improved treatment strategies even the very young patients with spinal cord injuries can anticipate a long life, only about 5 years is the prognosis for life for patients with spinal cord injuries less than for persons of the same age without spinal cord injuries ⁽¹⁰⁾.

Quality of life (QOL) is an important aspect of a complete outcomes evaluation, to document the effects of rehabilitation for persons with disabilities, including those with SCIs ⁽¹¹⁾. And there are nine themes in QOL, these themes included, physical, function and independence, accessibility, emotional wellbeing, stigma, spontaneity, relationships and social function, occupation, financial stability, and physical wellbeing ⁽¹²⁾.

The measurement of QOL is concerned with quantifying the judgments people make to describe their experiences of health and illness ⁽¹³⁾. Also has become an emerging science in the last few decades when QOL is a reflection of symptoms and concerns. There is now recognition that meaningful QOL measures should be used to monitor the health of the general population, estimating a burden of different conditions and monitoring outcomes ⁽¹⁴⁾. In addition, the assessment of changes occur in the persons QOL is part of the nursing role and the nurse is assessing patients problems regarding QOL, adherence to economics, sexual functioning, and satisfaction with therapy ⁽¹⁵⁾, and generally the quality of life for individuals with SCIs is significantly lower in all domains and sub domains as compared with a normative population ⁽¹⁶⁾.

In Iraq, the incidence of spinal cord injuries increased at beginning of Iraqi-Iranian war, and needed for specialized rehabilitation hospital, so, on 11th October 1982, the Ibn AL-Kuff hospital for spinal cord injuries was opened which was attached to Military Medical Affairs/Ministry of Defense ⁽¹⁷⁾.

Between the 1982 and 2003, approximately 84.8% from spinal cord injured persons were paraplegic, and about 15.2% were tetraplegic persons. 90.5% male and about 9.5% were female. 56.5% were complete paralysis, and about 43.5% were incomplete paralysis. And the causes of SCIs, approximately 50% for high velocity missiles, followed by road traffic accidents about 18%, 16% for fall from height, 6% stab wound, 10% for others ⁽¹⁸⁾.

From the 3/December/2003 and 23/March/2010 the total number of spinal cord injured persons who are admitted to the Ibn AL-Kuff hospital for SCIs, are (1768), distributed according to years and cause of injury (table A). Between the 3/December/2003 and 30/December/2008, approximately 1241 were male, and about 251 are female (table B).

Table (A) Distribution of Spinal Cord Injured Persons according to Years and Causes of Injury⁽¹⁹⁾

| Years | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | Total |
|------------------------|-----------|------------|------------|------------|------------|------------|------------|-----------|-------------|
| Causes | | | | | | | | | |
| External trauma | 6 | 37 | 29 | 37 | 39 | 26 | 25 | 4 | 203 |
| Pathological condition | 4 | 38 | 58 | 48 | 35 | 60 | 57 | 18 | 318 |
| Fall from height | 4 | 40 | 48 | 28 | 18 | 28 | 52 | 9 | 227 |
| Road traffic accidents | 8 | 79 | 80 | 38 | 20 | 39 | 46 | 11 | 321 |
| bullets | 11 | 139 | 156 | 125 | 132 | 82 | 49 | 5 | 699 |
| Total | 33 | 333 | 371 | 276 | 244 | 235 | 229 | 47 | 1768 |

Table (B) Distribution of Spinal Cord Injured Persons according to Years and Gender⁽¹⁹⁾

| Years | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|---------------|-----------|------------|------------|------------|------------|------------|-------------|
| Gender | | | | | | | |
| male | 30 | 284 | 313 | 232 | 197 | 185 | 1241 |
| female | 3 | 49 | 58 | 44 | 47 | 50 | 251 |
| Total | 33 | 333 | 371 | 376 | 244 | 235 | 1592 |

Objectives of the study: Was to assess spinal cord injured persons quality of life.

METHODOLOGY

Study Design

A descriptive quantitative study is carried out at Ibn AL-Kuff Hospital for spinal cord injuries, started from December 20th, 2009 to July 20th, 2010.

Study Sample

A non-probability (Purposive sample) of (100) spinal cord injured persons, who were clients of Ibn AL-Kuff hospital for spinal cord injuries/ outpatient clinic after at least 6 months after their discharged from the hospital for medical follow-up and rehabilitation, within 16 years old or more

Participants

A purposive sample of 100 individuals (60 men, 40 women), all of them are diagnosed as spinal cord injured persons, were enrolled in the study.

Instruments

An assessment tool was adopted and developed by the researcher to measure the quality of life after spinal cord injuries for those who are at 16 years old or more and discharged before at least 6 months after they completed their therapeutic and rehabilitation program and returned to their life, a draft instrument was reviewed by (15) experts and pretested with (10) spinal cord injured persons. The final study instrument consisting of three parts:

Part 1: Socio demographic Characteristics:

A socio demographic characteristics sheet, consisted of (9) items, which included residency, gender, age, marital status before injury, marital status after injury, level of education, occupational status before injury, occupational status after injury, and socio-economic status. In the socio-economic status the researcher used the Socio-Economic status Scale (SES) to clarify the level of participant's socio-economic status in term of low, moderate, and high (appendix E).

Part 2: Clinical Characteristics:

The second part of the questionnaire was comprised of (10) items, which included cause of injury, level of injury, type of injury, duration of injury, duration after discharge from hospital, associated diseases, medical checkup visits, physiotherapist visits, use of assistive aids and equipments, and possible complications after SCIs.

Part 3: Quality of life Measurement Scales:

The researcher adopted and developed QOL scale from the World Health Organization scale (Bonomi et. al., 2000) to measure the variables underlying the present study and based on (6) domains (physical, psychological, level of independence, social, environmental, and spiritual domain).

Data collection

The data were collected through the utilization of the developed questionnaire and by means of structured interview technique with the subjects who were individually interviewed in the out patients clinic, by using the Arabic version of the questionnaire and they were interviewed in a similar way, by the same questionnaire for all those subjects who were included in the study sample. The data collection process has been performed from March 15th, 2010 until the April 27th, 2010. Each subject spends approximately (15-20) minute to respond to the interview.

Data Analyses

In order to achieve the early stated objectives, the data of the study were analyzed through the use of statistical package of social sciences (SPSS) version 10 through descriptive and inferential statistical analyses.

RESULTS.**Table 1. Distribution of Spinal Cord Injured Persons by their Socio-Demographic Characteristics**

| Socio-demographic characteristics | Groups | Frequency | Percent | Cumulative Percent |
|-----------------------------------|-------------------------------------|-----------|---------|--------------------|
| Residence | Rural | 28 | 28 | 28 |
| | Urban | 72 | 72 | 100 |
| Gender | Male | 60 | 60 | 60 |
| | Female | 40 | 40 | 100 |
| Age Groups/years | 16 - 20 | 9 | 9 | 9 |
| | 21- 25 | 19 | 19 | 28 |
| | 26- 30 | 20 | 20 | 48 |
| | 31- 35 | 23 | 23 | 71 |
| | 36- 40 | 8 | 8 | 79 |
| | > 40 | 21 | 21 | 100 |
| Marital status before injury | Single | 39 | 39 | 39 |
| | Married | 61 | 61 | 100 |
| Marital status after injury | No change | 85 | 85 | 85 |
| | Married | 3 | 3 | 88 |
| | Widowed | 3 | 3 | 91 |
| | Divorced | 6 | 6 | 97 |
| | Separated | 3 | 3 | 100 |
| | | | | |
| Level of education | illiterate | 12 | 12 | 12 |
| | read & write | 6 | 6 | 18 |
| | primary | 17 | 17 | 35 |
| | intermediate | 22 | 22 | 57 |
| | secondary | 24 | 24 | 81 |
| | institute , college & post graduate | 19 | 19 | 100 |
| | | | | |
| Occupational status before injury | Governmental employee | 34 | 34 | 34 |
| | Privet work | 31 | 31 | 65 |
| | House wife | 21 | 21 | 86 |
| | Workless | 14 | 14 | 100 |
| Occupational status after injury | No change | 33 | 33 | 33 |
| | Change the job | 26 | 26 | 59 |
| | Loss the job | 41 | 41 | 100 |
| Socioeconomic status | Low | 15 | 15 | 15 |
| | Moderate | 72 | 72 | 87 |
| | High | 13 | 13 | 100 |

This table shows that the majority of the study sample are living in urban residential area and they account for (72%) of the completely sample. The above table also shows, that the majority of the study subjects (60%) are males. In addition, the vast majority of the study sample is within fourth age group (31-35) years and they account for (23%).

In regarding to the subjects marital status before injury, the majority of the study sample are married and they account (61%). While in regarding to the marital status after injury, the results show that the majority of the study sample has no change in the marital status after injury, and they account for (85%). Also in regarding to the subjects levels of education, the results show that the majority of the study sample are secondary school graduated and they account for (24%).

In addition, the majority of the study sample in regarding to their occupational status before injury is governmental employee and they account for (34%). While in regarding to the subjects occupational status after injury, the results show that the majority of the study sample lost their jobs after their injury, and they account for

(41%). Finally, in the above table and in regarding to the subjects socio-economic status, the results show that the majority of the study sample are within the moderate level of socio-economic status and they account for (72%).

Table 2. Summary Statistics of Sub-domains, of the Questionnaire's Responding, Mean of Scores, and Std. Dev, in Actual Scoring and Transforming Criteria.

| Sub Domains | Mean of Score | Standard Deviation | Mean in (100) transformed | Standard Deviation |
|---|---------------|--------------------|---------------------------|--------------------|
| Sub-domains related to the physical domain | | | | |
| Discomfort | 2.32 | 0.52 | 65.83 | 26.21 |
| Energy , Fatigue and Sleep | 2.23 | 0.54 | 61.40 | 27.23 |
| Clinical manifestation related to Spinal cord injury | 1.98 | 0.33 | 49.00 | 16.44 |
| Sub-domains related to the psychological domain | | | | |
| Negative feeling | 2.30 | 0.40 | 64.92 | 20.01 |
| Self-esteem | 2.65 | 0.54 | 82.63 | 27.11 |
| Thinking | 2.90 | 0.27 | 95.10 | 13.52 |
| Memory and concentration | 1.12 | 0.27 | 5.83 | 13.27 |
| Appearance and body image | 2.45 | 0.67 | 72.33 | 33.60 |
| Sub-domains related to the level of independence domain | | | | |
| Food taking | 1.19 | 0.43 | 9.30 | 21.38 |
| Light hygiene | 1.39 | 0.79 | 19.67 | 39.45 |
| Dressing | 2.04 | 0.80 | 52.20 | 39.99 |
| Bathing | 1.95 | 0.83 | 47.25 | 41.73 |
| Toileting | 1.68 | 0.80 | 33.83 | 40.09 |
| Mobility and locomotion | 2.10 | 0.53 | 55.00 | 26.37 |
| Transferring | 2.23 | 0.70 | 61.56 | 34.77 |
| Communication | 1.18 | 0.35 | 8.75 | 17.63 |
| Sub-domains related to the social domain | | | | |
| Recreation | 2.23 | 0.73 | 61.67 | 36.28 |
| Social relationships | 1.71 | 0.56 | 35.50 | 28.22 |
| Social support | 1.73 | 0.67 | 36.67 | 33.50 |
| Sexual relationships | 2.08 | 0.91 | 54.00 | 45.74 |
| Financial status | 2.41 | 0.49 | 70.33 | 24.34 |
| Sub-domains related to the environmental domain | | | | |
| Physical safety and security | 1.54 | 0.44 | 27.00 | 22.10 |
| Home environment | 1.33 | 0.20 | 16.33 | 9.91 |
| Sub-domains related to the spiritual domain | | | | |
| Negative beliefs | 1.26 | 0.32 | 12.93 | 15.82 |
| Positive beliefs | 1.82 | 0.12 | 40.80 | 5.98 |

The table reveals in the light of mean of scores the weight of effect among all the questionnaire sub-domains. The results show in regarding to the physical sub-domains, the responses are above the mean of score (fail) at the first and second sub-domains, and under the mean of score (pass) at third sub-domain. In addition to that the responses to the psychological sub-domains are upper the mean of score (fail) at the sub-domains numbers (1, 2, 3, 5), and under the mean of score (pass) at the fourth sub-domain. Moreover, the responding to the level of independence sub-domains, are under the mean of score (pass) at the sub-domains numbers (1, 2, 4, 5, 8), and above

the mean of score (fail) at the (3, 6, 7). In addition, the responding to the social sub-domains are above the mean of score (fail) at the sub-domains numbers (1, 4, 5), and under the mean of score (pass) at the second and third sub-domains. Moreover the responding to the environmental sub-domains are above the mean of score (fail) at the first sub-domain, and under the mean of score (pass) at the second sub-domain. Finally, in this table the responses to the spiritual sub-domains are under the mean of score (pass) at all the spiritual sub-domains.

Table 3. Extracted Factors Matrix in Varimax Rotated Method and Suggested Named Factor

| Component Matrix | Component |
|---|--|
| | 1 |
| Physical domain | 0.733 |
| Psychological domain | 0.766 |
| Level of Independence domain | 0.822 |
| Social domain | 0.899 |
| Environmental domain | 0.572 |
| Spiritual domain | 0.467 |
| Eigen values | 3.153 |
| % of covariance | 52.554 |
| Quality of life domains with the Eigen values | Quality of Life criterion in weighted scoring contents |

The table deals with the main domains of the study to investigate which of them has the powerful affect, and which of them has the weakest affects of the study phenomena. So we can see that the maximal affect presented by the social domain (0.899), followed by the level of independence domain (0.822), and then the psychological domain (0.766), followed by the physical domain (0.733). While the minimal affect presented by spiritual domain (0.467), followed by the environmental domain (0.572).

DISCUSSION

The findings of the present study show that the majority of the sample (72%) living at urban residential area. This result comes along with Kreuter et. al., (2008) their findings indicated, that the majority of the study subjects are living in a big city (68%) and the remaining are living in the countryside (32%). Which means that the spinal cord injuries are a modern scourge of industrialized society⁽²⁰⁾.

Regarding to gender, the findings indicate, that the majority of the sample (60%) were males. This result comes along with Stevens et. al., (2008), they studied the physical activity and quality of life in adults with spinal cord injuries; the results show that the majority of the study subjects are males⁽²¹⁾. Also Westgren and Levi, (1998), their report that the study population account for (353) spinal cord injured persons, 320 have participated, 261 males, and 59 female⁽¹⁶⁾. This is because that the Gender differences in the broad scope of health and illness have been the subject of extensive investigation and are also currently gaining more attention in nursing; women and men emphasize different aspects of their lives when evaluating their level of quality of life and life satisfaction, this will lead to the fact that the spinal cord

injuries are more common in men than in women.

The dominant age group of the study sample (23%) is within (31-35) years old, this result does not mean that the peak incidence age of spinal cord injuries is within (31-35) years, because the explore of the peak incidence age of spinal cord injuries in this study is difficult, that because our study is a descriptive study conducted to clarify the concept of quality of life among spinal cord injured persons, not to clarify the incidence age for those persons.

Regarding to marital status before the injury, the majority of study sample (61%) are married. This result comes in consistent along with our culture; where both males and female tend to marry early. And concerning with marital status after injury, the majority of study sample (85%) responds to the item of no change in the marital status after the injury (85%), followed by divorced (6%) and (3%) for each separate, widow, and married. As we know that the spinal cord injuries affect the persons marital status ⁽²²⁾, but in light of the Iraqis culture, the marital status after injury may still continuing.

Concerning with educational levels, the majority of study sample (24%) have graduated from secondary school. This result is agrees with Ku, (2007); Lee and Mittelstaedt (2004); LoBello et. al., (2003), the findings indicate that the majority of the study subjects are secondary school graduated or less^(23, 24, 25).

Regarding occupational status before injury, the majority of study sample (34%), are governmental employee, this result is agrees with, Chau et. al., (1994), they found that the majority of the study subjects are governmental employees⁽²⁶⁾. That is because; the governmental employee is one of the reasons that put individuals in contrast with the daily conflicts. While related to the occupational status after the injury, the majority of study subjects (41%) have lost their job after their injury; that is because that the spinal cord injuries cause a host of physical and psychosocial problems that can interfere with an individual's health, feelings of well-being, and participations in activities and relationships within family and community, which might push them to leave their jobs. Also this result is supported by the Somers (2010) their report that the spinal cord injuries can cause altered family dynamics, economic loss in term of absence from work⁽⁴⁾.

Regarding socio-economic status, the majority of study subjects (72%) are within the moderate level. Unfortunately the researcher did not find any studies distributing the study subjects according to the socio-economic status level. The discussion is based mainly on the study statistical mean of score which is equal to (2) for all domains except the environmental domain; the mean of score equals to (1.5), and as we know that the present study is composed basically of six main domains. Our results show that the subjects responses regarding the physical domain are above the mean of score (fail) at the discomfort and energy, fatigue, and sleep sub-domains, and under the mean of score (pass) at the clinical manifestation sub-domain, which indicates that the (66%) regarding the physical domain failed. This result agrees with the previous studies, Gutierrez (2007) found that many persons with spinal cord injury reports that the spinal cord injury is associated with physical disability⁽²⁷⁾.

Concerning psychological domain, the study subjects responses are above the mean of score (fail) at the, negative feeling; self-esteem; thinking; and appearance and body image sub-domains, and under the mean of score (pass) at the memory and concentration sub-domain, which indicates that the (80%) regarding to the psychological domain failed. This result is supported by previous studies, Craig et.

al., (2008) their report that the spinal cord injury is believed to place the individual at a high risk of psychological disorders⁽²⁸⁾. Perry et. al., (2009); Ku (2007); their study findings indicate, that the individuals with spinal cord injuries are associated with many psychological problems^(29, 23). Also this result is supported by the, Kreuter et. al.,(1994) their report, in addition to the physical disability, a spinal cord injury effects self-esteem and partner relationships⁽⁷⁾.

Regarding level of independence, the study subject's responses are under the mean of score (pass) at the, food taking; light hygiene; bathing; toileting; and communication sub-domains, and above the mean of score (fail) at the, dressing; mobility and locomotion; and transferring sub-domains, which indicates that the (62.5%) regarding the level of independence domain have passed. This result is supported by, Noreau and Shephard (1995) their report that the quality of life is closely associated with independent living⁽³⁰⁾.

Concerning the social domain, the study subjects' responses are above the mean of score (fail) at the, recreation; sexual relationships; and financial status sub-domains, and under the mean of score (pass) at the, social relationships; and social support sub-domains, which indicates that the (60%) regarding the social domain failed, This result comes along with the previous studies, Ku (2007) report that the psychosocial role performance and numerous aspects of well-being, are affected by the spinal cord injury⁽²³⁾. Also Naqshbandi, (2005), stated that the disabled person have a range of social characteristics that disrupt their social lives, these include impaired communication skills, impaired social relationships, increased dependence⁽³¹⁾.

Relative to environmental domain the study subjects' responses are above the mean of score (fail) at the physical safety and security sub-domain, and under the mean of score (pass) at the home environment sub-domain, which indicates that the (50%) regarding the environmental domain failed, this result is supported by the Manns and Chad (2001), their report that the " environment is your barrier, if everything was set up for me perfectly, then my quality of life would be absolutely wonderful⁽¹²⁾.

Regarding the spiritual domain, the study subjects' responses are under the mean of score (pass) at the negative and positive believes, which indicates that the spiritual domain had the weakest affect by the spinal cord injuries. In fact when we examine something among the Iraqis people, we must stand with respect for those people who are being patience against all of wars and conflicts, and the specific reason for this, we think that because they are still characterized by some morals and believe which direct their feelings and behavior. And as we know that the functioning and disability reflect an interaction between health conditions (disorders, disease, and injury) and contextual (environmental and personal) factors.

Also the findings indicate that the quality of life domains are affected by spinal cord injuries as compared with normative population, which mean that the study hypothesis is accepted. Our results lead us to the final assessment for all the compact criteria reflected by the quality of life domains with all the subjects' related variables, so we can see that the maximal affect presented by the social domain, followed by the level of independence domain, and then the psychological domain, followed by the physical domain. While the minimal effect, presented by spiritual domain, followed by the environmental domain. This result is supported by the LoBello et. al., (2003) they studied the social integration and life and family satisfaction in survivors of

spinal cord injury after 5 years post injury; the results indicate that the persons with spinal cord injury will experience social role impediments because of deficits in social skills, sexual relationship problems, financial status limitations, partner and bears relationships, loss of social relationships and impaired ability to create a new one, or in combination of many factors that may put the persons and their families in dissatisfaction with life, and develop a myriad of additional psychological problems. Also the result is supported by, Dorsett (2001); the findings further highlight the variety of individual responses to spinal cord injury and the unique influence of the individuals' social and physical environments⁽³²⁾. Interventions focusing on the strengths of the individual, social networks, problems solving, environmental issues and social change are discussed. The importance of interventions targeted at both the micro (individual) level and the macro level (influencing social and cultural attitudes, policy and programs) are discussed.

REFERENCES

- 1- Alexander, C.; Hwang, K.; Sipski, M.: Mothers with Spinal Cord Injury: Impact on Marital, Family, and Children Adjustment, *Achieve Physical Medicine Rehabilitation*, 2002, Vol(83), No(4), p.p: 24-30.
- 2-Zomorodi, A.; Madison, D.: *Advance in Treatment in Spinal Cord and Peripheral Nerves Injury*, 1st edition, 2005, CRC Company, U.S., p.p. 1101-1120.
- 3-Neugarten, A.: Life Satisfaction among Persons with Spinal Cord Injury, *Spinal Cord Injury*, 2000, 41(1): 44-48.
- 4-Somers, M.: *Spinal Cord Injury Functional Rehabilitation*, 3rd edition, 2010, Pearson Education International Company, U.S., p.p. 5-25.
- 5-Lewis, M.; Heltkemper, M.; Dirksen, R.; Obrien, G.; Bucher, L.: *Medical Surgical Nursing, Assessment and Management of Clinical Problems*, 7th edition, 2007, Mosby Elsevier Company, U.S., p.p. 1590,1592,1600.
- 6-Lucke, T.K.: Outcomes of Nurse Caring as Perceived By Individuals with Spinal Cord Injury during Rehabilitation, *Rehabilitation Nursing*, 1999, Vol (24), No (6), p. 247.
- 7-Kreuter, M.; Sullivan, M.; Siosteen, A.: Sexual Adjustment after Spinal Cord Injury, Focusing on Partner Experiences, *Paraplegia Journal*, 1994, Vol (32), No (4), p.p: 225-235. Medline ® 1994.
- 8-Arce, D.; Sass, P.: Recognizing Spinal Cord Emergencies, *American Family Physician Journal*, 2001, Vol (64), No (4), p.: 631. Available online www.aafp.org/afp
- 9-Dewit, S.: *Essential of Medical Surgical Nursing*, 7th edition, 1998, W.B Saunders Company, Philadelphia, p.p. 373, 376.
- 10-Lewis, M.; Heltkemper, M.; Dirksen, R.: *Medical Surgical Nursing, Assessment and Management of Clinical Problems*, 5th edition, 2000, Mosby Company, U.S., p.p. 1722-1730.
- 11-May , L.; Warren, S.: Measuring Quality of Life of Persons with Spinal Cord Injury; External and Structural Validity, *Spinal Cord Journal*, University of Alberta , Department of Physical Therapy, 2002, Vol (40), No (7), p.p: 341 – 350 .
- 12-Manns, P.; Chad, E.K.: Component of Quality of Life for Persons with Quadriplegic and Paraplegic Spinal Cord Injury, *Ebsco Electronic Journal*, 2008, Vol (95), No (11), p.p: 795-811, Available online [www. Sagepublications.com](http://www.Sagepublications.com).
- 13-Carr, J.A.; Higginson, J.I.; Robinson, G.P.: *Quality of Life*, 1st edition, 2003, BMJ

- Books Company, U.K., p.p. 14, 19, 64, 82, 89, 90.
- 14-Jasim, H. A.: Determination of Quality of Life for Patients with Essential Hypertension: A Comparative Study, University of Baghdad/ College of Nursing, 2008, unpublished thesis, p.p. 3-5; 34-43.
 - 15-Bears, G.P.; Myers, L.J.: Adult Health Nursing, 3rd edition, 1998, Mosby Company, U.S., p.p. 1058-1077.
 - 16-Westgren, N.; Levi, R.: Quality of Life and Traumatic Spinal Cord Injury, Archives of Physical Medicine and Rehabilitation Journal, 1998, Vol (79), No (11), p.p: 1433-1439.
 - 17-Beder, A. R.: Nurses knowledge and Practice Concerning Neurogenic Bladder Rehabilitation, University of Baghdad/College of Nursing, 2006, unpublished thesis, p.p. 1-8.
 - 18-Mohamed, S.: Effectiveness of Educational Program on Nurses Knowledge toward Skin Care and Prevention of Pressure Ulcer for Spinal Cord Injury Persons, University of Baghdad/ College of Nursing, Unpublished Dissertation, 2009, p.p. 2-10.
 - 19-Statistical Department of Ibn AL- Kuff Hospital for Spinal Cord Injury, 2010.
 - 20-Kreuter, M.; Agneta S.; and Fin B.: Sexuality and Sexual Life in Women with Spinal Cord Injury: a Controlled Study, Journal OF Rehabilitation Medicine, 2008, Vol (40), No (1), p.p: 61–69.
 - 21-Stevens, S.; Caputo, J.; Fuller, D.; Morgan, D.: Physical Activity and Quality of Life in Adults with Spinal Cord Injury, Spinal Cord Medicine, 2008, Vol (31), No (4), p.p: 373-378.
 - 22-Devivo, MJ; Ivie, CS.: Life Expectancy of Ventilator-Dependent Persons with spinal cord injurious, Rehabilitation Medicine, 1995, Vol (108), No (1), p.p: 226-232.
 - 23-Ku, H.J.: Health Related Quality of Life in Patients with Spinal Cord Injury: Review of the Short Form 36-health Questionnaire Survey, Yonsei Medical Journal, 2007, Vol (48), No (3), p.p: 360-370.
 - 24-Lee, Y.; Mittelstaedt, R.: Impact of Injury Level and Self- Monitoring a Free Time Boredom of People with Spinal Cord Injury, Disability and Rehabilitation Journal, 2004, Vol (26), No (19), p.p:1143-1149. Available online www.tandf.co.uk/journals
 - 25-Lobello , S.; Underhil, A.; Valentine, P.; Stroud, T.: Social Integration and Life and Family Satisfaction in Survivors of Injury at 5 years Post Injury, Rehabilitation Research and Development Journal , 2003, Vol (40), No (4) , p.p: 73- 80.
 - 26-Chau, N.; Daler, S.; Andre, J.; Patris, A.: Inter-rater Agreement of Two Functional Independence Scales: the Functional Independence Measure (FIM) and a subjective uniform continuous scale, Disability and Rehabilitation, 1994, Vol (16), No (2), p.p: 63-71.
 - 27-Gutierrez, D.; Thompson, L.; Kemp, B.; Mulroy, S.: The Relationship of Shoulder Pain Intensity to Quality of Life, Physical Activity, and Community Participation in Persons with Paraplegia, Journal of Spinal Cord Medicine, 2007, Vol (30), No (3), p.p: 251-255.
 - 28-Craig, A.; Tran, Y.; Lovas, J.; Middleton, J.: Spinal Cord Injury and its Association with Negative Psychological Status, International Journal of Psychosocial Rehabilitation, 2008, Vol (12), No (2), p.p: 115-121.

- 29-Perry, k.; Nicholas, M.; Middleton, J.; Siddall, P.: Psychological Characteristics of People with Spinal Cord Injury, Rehabilitation Research and Development, 2009, Vol (64), No (1), p.p: 57-68.
- 30-Noreau, L.; and Shephard, R.J. : Spinal Cord Injury, Exercise and Quality of Life, Sport Med, 1995, Vol (20), No (4), p.p: 226-250.
- 31-Naqshbandi, V.: Assessment of Quality of Life for Adult Patients after Traumatic Head Injury in Erbil Governorate, University of Salahaddin/College of Nursing, Unpublished Thesis, 2005 , P.P. 2,4,5 .
- 32-Dorsett, a. p.: Spinal Cord Injury: How do People Cope, University of Queensland, 2001, published thesis, p. 1.