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Physical and Psychosocial Burdens of Patients with Spinal Cord Injury in Spinal Cord Injury Hospital in Baghdad City

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Abstract: ***Spinal Cord injury is a global health problem, affecting millions of people and causing a death or disability to a patient with a severe disability that may accompany them throughout their life. The study aims to determine the physical and psychological burden of spinal cord injuries and to find the relationship between the physical and psychosocial burdens of patients with spinal cord injuries and their relation to demographic characteristics such as age, gender, level of educational, level of injury and duration of injury. A descriptive study was conducted at the spinal cord injury hospital in Baghdad city for the period from 18 January, 2017 to 2 April, 2017. This is to achieve the objectives of the study. A sample of 126 patient was selected at the spinal cord injury hospital in Baghdad city. The data was collected through the use of study tool that consists of four parts, the first part included general information about patients and demographic characteristics and contained 12 items, the second part , which contains 18 items about clinical information, the third part about the complications that may accompany patients with spinal cord injuries and contains 42 items, and the fourth part which included the burdens faced patients with spinal cord injury and contains 47 items which are distributed as following: the physical burden 19 items , psychological burden 16 items and social burden 12 items, the total number of tool's items are 119 items. Moreover, the data was collected by the researcher through a personal interview. The data were also described and analyzed through using of the descriptive statistics methods (frequency , percentage, arithmetic mean, standard deviation) ,as well as, using of inferential statistical (Pearson coefficient and triple Likert scale), the results of the study showed that patients suffer from physical, psychological and social burdens. The results of the study also indicated a very strong correlation between all aspects of the burden of patients with spinal cord injuries and some demographic characteristics such as gander and level of injury. The results of the study indicate that there is no significant relationship between all aspects of the burden of spinal cord injuries and the level of education of patients. The results of the study concluded that the following cases, the most common in the spinal cord injury were as following: people who are living in urban areas, young males, shell or gunshots injuries, paralysis of the lower extremities, injuries with incomplete damage, and thoracic injuries followed by cervical vertebrae. In addition, spinal cord injuries are associated with a number of complications which involving all the body's systems. The most common complications among patients include: edema, slow motion, chronic urinary tract infections, impotence, muscle spasm, muscle atrophy, chronic pain of back and neck, and the loss of teeth. Moreover, the results of the study indicate that spinal cord injury does not affect the continuity of the marital relationship of persons but affects the continuity of the work of people.The current study recommends the need to conduct comprehensive educational lectures for patients and health care providers on the burdens and complications that may occur after spinal cord injuries for the purpose of raising awareness of health and psychosocial and to follow the correct ways to deal with the case of injury. Moreover, most of patients also need to open branches of rehabilitation centers which will contribute to the distribution of aids for patients with spinal cord injuries in the region.***

Keywords: Spinal Cord injury, physical, psychosocial, burden

1. Introduction

Spinal cord injury is harm injury which arising outside the cord or within the cord itself due to traumatic or non-traumatic triggers, and affect the individual's quality of life with (SCI), not only bodily but also psychosocially (Atrice, et al., 2007).

A population study was conducted in the United States to estimate the number of people with (SCI), it was estimated that the annual incidence rate was about 54 cases per million inhabitants (National Spinal Cord Injury Statistical Center (NSCISC, 2016).

Furthermore, an occurrence of global spinal cord injury estimated about 40 to 80 new cases per million populations annually, this based upon incidence studies of (SCI) from all causes. So, this means that annually between (250000 and 500000) people become vertebral cord injured. The rates of occurrence with (TSCI) tend to be higher in North America than in Europe, it is also possibly due to higher rates of violence in the (USA) (World Health Organization, 2013; Hagen EM et al., 2010).

In the USA, the incidence rates of (TSCI) about 20.7 to 83 per million inhabitants a year in the most recent studies while the prevalence rates approximate to vary from 50 to 906 individuals with (TSCI) per million population. One study from Canada estimates the prevalence to be 1,298 per million inhabitants (World Health Organization, 2013).

In Europe, the occurrence rate estimated about 8.0 in Spain to 130.6 individuals with (TSCI) per mil Inhabitants a year in Bulgaria. In 2013, there are many studies which centered on prevalence of (TSCI) documented rates from 50 to 1,298 circumstances per million populations worldwide. In each of Sweden, Finland, Norwegian, and Iceland, the rates of the occurrence with (TSCI) were correspondingly estimated as

following (227), (280), (351 to 419), and (526) of individuals per million populations. In Asia, the rates of occurrence of (TSCI) were reported to be (14.6), (18), (40.2) and (246) of people per million population inhabitants a year in each of Taipei, Jordan, Japan and Taiwan, respectively (World Health Organization, 2013).

In addition, two Asian studies reported prevalence rates of traumatic (SCI) as 849.8 cases per million human population in Nepal, 236 cases per million human population in India. In Iran, a prevalence rate of 440 per million human population was predicted. Finally, in Australia, lately recorded a prevalence rate of 681 people with traumatic (SCI) per million human population. In Oceania, the predicted incidence rate assorted from 10.0 to 77.0 people with traumatic (SCI) per million inhabitants annually, from Fiji and New Zealand respectively. In Africa, the incidence of (TSCI) in South Africa continent is probably the highest in the world and is mainly caused by assault. In the region Cape Town in South Africa continent, a gross annual crude incidence rate of 75.6 per million population were registered. As a result, a rise in prevalence rates due to much longer life spans of individuals with a (SCI) is not surprising. Prevalence rates could also be increased with a real increase in the incidence rate of (TSCI) as determined in several studies .Europe and Asia showed the highest rates of incidence with spinal cord injury, then Oceana and the United States (Joseph, et. al., 2015; Furlan, et. al., 2013; Noonan, 2012; Strauss, et. al., 2006; O'Connor, et. al., 2005).

Since 2010, the racial distribution of persons with (SCI) have been observed as following 63.5% are white, 22% are black, 11% are Hispanic, 2% are Asian, 0.5% is Native American and 1% is other. Males account for approximately 80% of new (SCI) cases. In addition, the age at injury has increased from 29 years during the 1970s to 42 years currently (NSCISC, 2016).

However, (SCI) affect all aspects of a patient's life which are including the physical, behavioral, psychological and social functioning. As life expectancy is steadily improving through modern spinal unit care, the increased survival in (SCI) patients which are associated with secondary complications and continue to pose management challenges. Although secondary difficulties in (SCI) people such as, pressure ulcer, bowel dysfunction, bladder dysfunction, urinary system infections, obesity, lack of the capability to walk and paralysis of the arm or lower leg or both and the limited variety of difficulties that are related to subjective experience such as: pain and tiredness have received significant amounts of attention in the study literature , Caliri, 2005; Kreuter, et al, 2005; Liem, et al, 2004; Garcia Leon & Esclarin De Ruz, 2003; Jamil, 2001; Chen & Nussbaum, 2000). Moreover, the psychosocial problems are affecting (SCI) patients which include sexual dysfunctions, problems of social adjustment, burden on family, strained partner relationships, and sleep disturbances such as, restless sleep, difficulty in initiating and maintaining sleep, snoring, often awaking in the early hours of the morning. Moreover, the frequent hospitalization, inability to return to pre-injury occupation, immobility and lack of autonomy can adversely affect the community reintegration and quality of life of (SCI) patients (Franceschini, et. al., 2003; Kennedy & Rogers, 2000; and Kennedy & Duff, 2001).

2. Material and Method

A descriptive study was conducted at the spinal cord injury hospital in Baghdad city for the period from 18 January, 2017 to 2 April, 2017. This is to achieve the objectives of the study. A sample of 126 patient was selected at the spinal cord injury hospital in Baghdad city. Those who visited the hospital either for Physiotherapy and rehabilitation medical follow-up or both as well as patients who were hospitalized. The data was collected through the use of study tool that consists of four parts, the first part included general information about patients and demographic characteristics and contained 12 items, the second part , which contains 18 items about clinical information, the third part about the complications that may accompany patients with spinal cord injuries and contains 42 items, and the fourth part which included the burdens faced patients with spinal cord injury and contains 47 items which are distributed as following: the physical burden 19 items , psychological burden 16 items and social burden 12 items, the total number of tool's items are 119 items. Moreover ,the data was collected by the researcher through a personal interview. This tool took approximately 25-35 minutes for each person.

Inclusion criteria of the study

1) All participants are diagnosed as spinal cord inured persons.
2) The ages from 20 years old to less than 72 years old.
3) Injury occurred more than 6 months ago.
4) Both sexes (Male and Female).

Exclusion criteria of the study

1) The sample excluded patients with other disability not related to spinal cord injury such as cancer or systematic disease.
2) Persons who have History of Traumatic Brain Injury (TBI)
3) Neurological condition other than SCI such as: Alzheimer's disease, dementia, stroke, multiple sclerosis, Parkinson's disease and diagnosis of a psychiatric disorder such as post- traumatic stress disorder schizophrenia or bipolar disorder
4) Pregnant

3. Results

The data were described and analyzed through using of the descriptive statistics methods (frequency , percentage, arithmetic mean, standard deviation) ,as well as, using of inferential statistical (Pearson coefficient and triple Likert scale), the results of the study showed that patients suffer from physical, psychological and social burdens. The results of the study also indicated a very strong correlation between all aspects of the burden of patients with spinal cord injuries and some demographic characteristics such as gander and level of injury. The results of the study indicate that there is no significant relationship between all aspects of the burden of spinal cord injuries and the level of education of patients.

Table (4-1): Distribution of spinal cord injured persons by their public information of study patients

N.	items	groups	Frequency (F)	Percentage (%)
1	Residence Environment	Rural	21	17
		Urban	105	83
		Total	126	100
2.	Gender	Male	89	71
		Female	37	29
		Total	126	100
3.	Age (years)	20-29	58	46
		30-39	21	17
		40-49	13	10
		50-59	19	15
		60-69	7	6
		> 69	8	6
		Total	126	100
4.	Marital status	Single	29	23
		Married	78	62
		Widowed	2	1
		Divorced	12	10
		Separated	5	4
		Total	126	100
5.	Level of education	Not read &not write	27	21
		Read & write	19	15
		Primary	39	31
		Intermediate	17	14
		Secondary	14	11
		Institute	5	4
		College &postgraduate	5	4
		Total	126	100
6	Occupational status	Workless	**34**	**27**
		House wife	**12**	**10**
		Free business	**17**	**13**
		Student	**9**	**7**
		Private Sector employee	**10**	**8**
		Retired	**9**	**7**
		Government employee or Civil or allocation	**35**	**28**
		Total	**126**	**100**
7	Monthly income	< 100	**11**	**9**
		100-300 thousand	**15**	**12**
		> 300- 500 thousand	**37**	**29**
		> 500- 700 thousand	**15**	**12**
		> 700- 900 thousand	**13**	**10**
		> 900 thousand	**35**	**28**
		Total	**126**	**100**

This table (4-1) shows that the majority of the study sample who are surviving in urban residential area 105 (83%) of the completely sample. The table also shows that the majority of the sample 89 (71 %) were male in addition to the almost all of them 58 (46%) were at age (20- 29) years old Moreover, the greater part of the samples 78 (62%) were married. In regarding to the level of education, the results show that the majority of the study sample were primary school graduated 39 (31%).On the other hands, the major group of the study sample in regarding to their occupational status "governmental employee or civil or allocation" 35 (28%) was distributed as following: 10 (8%) government employee, 9 (7%) civil and 16 (13 %) allocation as a soldier and policeman. Moreover, the major group of monthly income include 37 (29%) of patients in item (> 300- 500) Thousand.

Table (4-2): Distribution of spinal cord injured persons by their clinical Data

No.	items	groups	Freq. (F)	Perce. %
1	Causes of injury:	External trauma	8	6
		Shell or gunshots	52	41
		Fall from high	24	19
		Accidents of cars or motorcycles	27	22
		Pathological causes	15	12
		Total	126	100
2.1	Type of injury according to The presence or absence of muscle tension or cramping:	Spasticity	73	58
		Flaccidity	53	42
		Total	126	100
2.2	Type of injury according to level of injury:	Paraplegia	92	73
		Tetraplegia	34	27
		Total	126	100
2.3	Type of injury according to Degree of completion of injury:	Complete damage	57	45
		Incomplete damage	69	55
		Total	126	100
3	Location of injury:	Cervical spine	45	36
		Thoracic vertebrae	52	41
		Lumbar vertebrae	24	19
		Sacral vertebrae	5	4
		Total	126	100

This table shows that the highest percentage of the study sample according to causes of injury were shell or gunshots injury 52 (41%) . in addition to the type of injury according to The presence or absence of muscle tension or cramping that the higher percentage were spasticity 73 (58%). It also in regarding to type of injury according to level of injury the results show that the majority of study subjects presented with paraplegia 92 (73%). In addition to type of injury according to degree of completion of injury the results show that the majority of the study subjects presented with incomplete type of injury 69 (55%). Moreover, the majority of the study sample in regarding to the location of injury was thoracic vertebrae 52 (41%).the results also show that the majority of the study according to duration of injury was < 1 year 87 (69%) and the lowest percentage was <15 years 5 (4%), as well as, the highest percentage of the study sample according to Post-discharge period was too < 1 year 89 (71%) and the lowest percentage was <15 years 3 (2%) .

Table (4-3) Correlation between demographic data and physical burden

No.	Physical burden \ Demographic data	Gender	Age	Educational level	Level of injury	Duration of injury
1	**I suffer from discomfort:**					
	- Because of pain :					
	Pearson co.	- 1.000**	-0.808	-0.331	-1.000**	-0.762
	Sig	**0**	0.401	0.785	**0**	0.448

	N.	126	126	126	126	126
	- While moving from one place to another**:**					
	Pearson co.	-1.000**	-0.911	-0.131	-1.000**	-0.878
	Sig	**0**	0.27	0.916	**0**	0.318
	N.	126	126	126	126	126
	- During exercise:					
	Pearson co.	-1.000**	-0.812	0.793	-1.000**	-0.854
	Sig	**0**	0.397	0.417	**0**	0.349
	N.	126	126	126	126	126
2	I suffer from sleep disorders:					
	- Difficulty in sleeping					
	Pearson co.	-1.000**	-0.834	-0.289	-1.000**	-0.79
	Sig	**0**	0.373	0.813	**0**	0.42
	N.	126	126	126	126	126
	- snoring					
	Pearson co.	-1.000**	-0.798	0.807	-1.000**	-0.841
	Sig	**0**	0.412	0.402	**0**	0.364
	N.	126	126	126	126	126
3	I suffer from fatigue:					
	During exercise					
	Pearson co.	-1.000**	-0.982	0.103	-1.000**	-965
	Sig	0	0.12	0.934	0	0.168
	N.	126	126	126	126	126
	- While moving from place to another:					
	Pearson co.	-1.000**	-0.997	0.365	-1.000**	-1.000**
	Sig	0	0.052	0.762	0	0.004
	N.	126	126	126	126	126
	-While using tools and devices inside the housing:					
	Pearson co.	1.000**	-0.458	0.983	1	1.000**
	Sig	0	0.697	0.177	0	0
	N.	126	126	126	126	126
4	I suffer from pain in:					
	Pearson co.	-1.000**	-0.961	0.542	-1.000**	-1.000**
	Sig	**0**	0.179	0.635	**0**	**0**
	N.	126	126	126	126	126
	The Back					
	Pearson co.	-1.000**	-0.992	0.406	-1.000**	-1.000**
	Sig	**0**	0.08	0.734	**0**	**0**
	N.	126	126	126	126	126
	The Lower limbs					
	Pearson co.	-1.000**	-0.823	0.782	-1.000**	-1.000**
	Sig	**0**	0.385	0.429	**0**	**0**
	N.	126	126	126	126	126
	The Upper limbs					
	Pearson co.	-1.000**	-0.82	0.784	-1.000**	-1.000**
	Sig	**0**	0.388	0.426	**0**	**0**
	N.	126	126	126	126	126
	The affected area					
	Pearson co.	-1.000**	-0.705	0.882	-1.000**	-1.000**
	Sig	**0**	0.502	0.312	**0**	**0**
	N.	126	126	126	126	126
5	**The movement:**					
	Inability to move the lower limbs					
	Pearson co.	1	.997*	-0.214	1.000**	0.989
	Sig	**0**	**0.049**	0.863	**0**	0.097
	N.	126	126	126	126	126
	Inability to move the upper limbs					
	Pearson co.	1	-0.624	0.928	1.000**	-0.681
	Sig	**0**	0.571	0.243	**0**	0.523
	N.	126	126	126	126	126
6	**The sensation:**					
	- Loss of sensation in the lower limbs					
	Pearson co.	1	0.944	0.043	1.000**	0.917
	Sig	**0**	0.214	0.972	**0**	0.262
	N.	126	126	126	126	126
	- Loss of sensation in the upper limbs					

	Pearson co.	-1.000**	-0.649	0.916	-1.000**	-0.704
	Sig	**0**	0.55	0.264	**0**	0.503
	N.	126	126	126	126	126
	Sense of numbness					
	Pearson co.	-1.000**	-0.29	-0.833	-1.000**	-0.218
	Sig	**0**	0.813	0.373	**0**	0.86
	N.	126	126	126	126	126
	Sense of Tingling					
	Pearson co.	-1.000**	-0.722	-0.454	-1.000**	-0.668
	Sig	**0**	0.486	0.7	**0**	0.534
	N.	126	126	126	126	126

Table (4-4): Correlation between demographic data and psychological burden of SCI. patients

No.	Demographic data / Psychological burden	Gender	Age	Educational level	Level of injury	Duration of injury
	Negative feelings:					
	Anxiety					
	Pearson co.	1.000**	0.821	-0.783	1.000**	0.862
	Sig	**0**	0.387	0.427	**0**	0.339
	N.	126	126	126	126	126
	Anger					
	Pearson co.	-1.000**	-0.771	-0.388	-1.000**	-0.721
	Sig	**0**	0.44	0.746	**0**	0.488
	N.	126	126	126	126	126
	Depression					
1	Pearson co.	-1.000**	-0.276	-0.841	-1.000**	-0.203
	Sig	**0**	0.822	0.364	**0**	0.87
	N.	126	126	126	126	126
	Fear:					
	Pearson co.	-1.000**	-0.661	0.909	-1.000**	-0.716
	Sig	**0**	0.54	0.274	**0**	0.492
	N.	126	126	126	126	126
	Stress					
	Pearson co.	-1.000**	-0.894	-171	-1000**	-0.858
	Sig	**0**	0.295	0.891	**0**	0.343
	N.	126	126	126	126	126
	Memory and concentration disorders:					
	Inability to concentrate					
	Pearson co.	-1.000**	-0.727	0.867	-1.000**	-0.776
	Sig	**0**	0.482	0.332	**0**	0.434
	N.	126	126	126	126	126
	-Inability to remember nearby events:					
2	Pearson co.	0	-0.637	0.922	0	-0.693
	Sig	**0**	0.56	0.254	**0**	0.512
	N.	126	126	126	126	126
	-The inability to remember old events:					
	Pearson co.	-1.000**	-0.727	0.867	-1.000**	-0.776
	Sig	**0**	0.482	0.332	**0**	0.434
	N.	126	126	126	126	126

This table (4-4) indicates that the correlation is highly significant at all the items of psychological burden and in relation to gander and level of injury ($p \leq .000$).

Table (4-5): Correlation between demographic data and Social burden of SCI. patients:

No.	Demographic data / Social burden	Gender	Age	Educational level	Level of injury	Duration of injury
1	**undesired for entertainment and social integration:**					
	Sharing with my family on holidays and occasions:					
	Pearson co.	-1.000**	-0.479	-0.703	-1.000**	-0.412
	Sig.	**0**	0.682	0.504	**0**	0.73
	N.	126	126	126	126	126
	Go to tourist travel:					
	Pearson co.	-1.000**	-0.727	0.867	-1.000**	-0.777
	Sig.	**0**	0.482	0.332	**0**	0.434
	N.	126	126	126	126	126

	Go to public parks:					
	Pearson co.	-1.000**	-0.811	0.794	-1.000**	-0.853
	Sig	**0**	0.398	0.416	**0**	0.35
	N.	126	126	126	126	126
	Participation in conversations with family members:					
	Pearson co.	-1.000**	0.995	-0.193	1.000**	0.985
	Sig.	**0**	0.062	0.876	**0**	0.11
	N.	126	126	126	126	126
	Visiting relatives:					
	Pearson co.	-1000**	-0.494	-0.69	-1.000**	-0.427
	Sig	**0**	**0.004**	0.868	**0**	**0**
	N.	126	126	126	126	126
	visiting friends:					
	Pearson co.	-1.000**	-0.129	-0.912	-1.000**	-0.054
	Sig	**0**	0.918	0.268	**0**	0.966
	N.	126	126	126	126	126
	Participation in welcoming of guests and sitting with them:					
	Pearson co.	1.000**	0.99	-0.422	1.000**	.998*
	Sig	**0**	0.091	0.723	**0**	0.043
	N.	126	126	126	126	126
	Make friendships with others:					
	Pearson co.	-1.000**	-0.465	-0.714	-1.000**	-0.397
	Sig	**0**	0.692	0.494	**0**	0.74
	N.	126	126	126	126	126
	Being with my family in times of eating:					
	Pearson co.	-1.000**	0.48	-978	-1.000**	0.545
	Sig	**0**	0.681	0.133	**0**	0.633
	N.	126	126	126	126	126
2	**Insufficient social support:**					
	Unable to support others:					
	Pearson co.	-1.000**	0.545	-0.96	-1.000**	0.606
	Sig	**0**	0.633	0.181	**0**	0.585
	N.	126	126	126	126	126
	I do not get enough support from my family:					
	Pearson co.	1.000**	-0.604	0.937	1.000**	-0.662
	Sig	**0**	0.587	0.227	**0**	0.539
	N.	126	126	126	126	126
	I do not get enough support from my friends:					
	Pearson co.	-1.000**	-0.999	0.332	-1.000**	-1.000*
	Sig	**0**	0.029	0.785	**0**	0.019
	N.	126	126	126	126	126

This table (4-5) indicates that nonparametric correlation is highly significant in all items of social burden and in relation to gender and level of injury ($p \leq .000$).

The correlation is highly significant between participation in conversations with family members and in relation to gender and level of injury ($p \leq .000$).

- The correlation is significant between visiting relatives and age ($p \leq .004$). As well as, it is very highly significant between visiting relatives and in relation to gender, level of injury and duration of injury ($p \leq .000$).
- The correlation is not significant between "participation in welcoming of guests and sitting with them" and age ($p \leq .091$ but the correlation is highly significant between "participation in welcoming of guests and sitting with them" and in relation to gender and level of injury ($p \leq .000$).
- The correlation is highly significant between "I do not get enough support from my friends" and in relation to gender and level of injury ($p \leq .000$).

4. Discussion

The discussion of the study results which was enriched with interpretation of the findings of other authors and according to the scientific methods presented for each part of burdens. Moreover, the discussion was reasonably derived of the results with the support of the available literature and related studies. Table (4-1) shows that the majority of the sample 105 (83%) 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 surviving in the countryside(32%) , this means that the spinal cord injuries are a modern scourge of industrialized society.

Regarding to gender, the findings indicate that the majority of the sample 89 (71%) were males. This result of present study comes along with (NSCISC, 2016) which indicated that males account for approximately 80% of new (SCI) cases. The dominant age group of present study 58 (46%) is within (20-29) years old. This result of present study is similar to study done by (NSCISC, 2016) which indicated

that the average age at injury increases during the period from 20-29 in young people.

Regarding to marital status, the majority of study sample 78 (62%) are married followed by single 29(23%) and divorced 12 (10 %). These results come in consistent along with our culture; where both males and female tend to marry early. As well as, there is a study that more than half of persons with (SCI.) are married at time of their injury. The percentage of persons who are married (51.4%) slowly increases over time, as does single (32.8%) and divorce (9.5%) (NSCISC, 2016). Moreover, marriage is a major source of support and well-being unfortunately, but another (SCI) model systems study showed that the proportion of married people who have (SCI) varied from 31% at five years post (SCI) to 43% at 25 years post (SCI).

Kreuter et. al., (1998) their report that 37.7% married or cohabiting people with SCI in Sweden. Estimates of married or cohabitating people with (SCI) in the Netherlands are much higher, from 56.3%13 up to 65.9%.86 (Charlifue S, et. al., 2004).

Concerning with educational levels, the majority of present study 39(31%) have graduated from Primary school. This result agrees with (NSCISC, 2016) which indicate that the level of education slowly raises over time. Moreover, there is a negative relationship between education level and (SCI). Regarding occupational status, the majority of study sample 35 (28%) patients were governmental employees, while 9 (7%) were students and 9(7%) were retired, this result is supported by study done by (Ottoman Elli L. & Lind L., 2009) which indicated that the rate of any employment after (SCI) was approximately 35% in the United States.

Regarding socio-economic status, the majority of the study sample with number of family members group 57(45%) are included (5-8) persons in housing, as well as , number of rooms in house group 73(58%) are (1-3) rooms while the majority of the study sample with ownership of housing group is house owner 58 (46%), these results is supported with contrast study in all, 119 families (38%) rented the home they lived in, 93 families (30%) owned the home and 99 families (32%) used a home for free. Homes had typically two rooms and one in two had access to a garden. For the Kabul subpopulation, usage of a garden was positively associated with a better quality (National Spinal Cord Injury Information Network, 2002؛World Health Organization, 2000).

Regarding socio-economic status, the majority of monthly income group of the study sample 37(29%) is within (>300-500) thousand which is not sufficient followed by 35(28%) within (< 900) thousand. This result is supported by study which indicated that the average yearly expenses health care costs and living expenses while the estimated lifetime costs that are directly attributable to (SCI) vary greatly based on education, neurological impairment, and pre-injury employment history. These estimates do not include any indirect costs such as losses in wages, fringe benefits, and productivity of indirect costs averaged 72,047$ per year in 2015 dollars (NSCISC, 2016).

However, We derived costs associated with initial hospitalization from the work by Dryden et al., (2005), as well as, we calculated the cost per acute care day for hospitalizations following the initial hospitalization based on costs from the Ontario case costing initiative using a mix of in-patient admissions for diseases of the genitourinary system (47%), skin and subcutaneous tissue (35%) and the respiratory system (18%). This approach was used because the majority of hospitalizations after an initial injury are for these three complications. We then applied the cost per acute care developed in this fashion in valuing all acute hospitalizations, including those for depression, substance abuse, etc. Visits to non-physicians included services provided by physiotherapists, occupational therapists, psychologists, nurses, chiropractors, etc. home modifications included all those designed specifically to accommodate the person with (SCI) in both the principal and any secondary homes, in addition to the homes of family and friends. Non-prescription items included non-prescription pain medication, catheters, dressings and bandages, laxatives, vitamins and rubber gloves. Adaptive equipment includes breathing/handling aides (e.g. ventilators), mobility aids (e.g. wheelchairs, braces, crutches), bed/ hygiene aids (e.g. hospital beds, special mattresses, bed or bath lifts, and commode seats) and exercise and other miscellaneous items (e.g. exercise bikes, weights, special telephones). The cost per hour for attendant care was based on the median Canadian hourly wage for "Assisting Occupations in Support of health services. (Ontario Case Costing Initiative, 2011; Statistics Canada: Consumer price index (CPI), 2010; Dryden DM., et. al., 2005; Cardenas, et. al., 2004; and Berkowitz, et. al., 1998).

The body mass index relative to findings of this study showed that 63 (50%) of the patients are normal weight (18.5-24.9). These findings agree with study of Victoria (2011) which indicated that the prevalence of normal weight, underweight, overweight, and obesity was 39%, 7.5%, 31.4%, and 22.1%, respectively, which varied by age, sex, marital status, education, and neurologic impairment.

Table (4-2) demonstrates that the majority of the causes of injury 52 (41%) are injured with shell or gunshots, this result agrees with Deconinck (2003) which mentioned that major causes of injury were shelling (38%) and fall (26%). Other causes were gunshot (15%), traffic accident (11%), mine (5%), violence (2%) and others (3%). For 182 conditions (59%), the cause of injury was due to war wounds of which 62% were due to shelling, 28% to gunshot and 10% to mine explosion. Overall, the results of the present study show that 73 (58%) was experiencing spasticity. This result agrees with research done by (Rekand, et. al., 2012; Gorgey, et. al. 2010) which suggested that spasticity influences 70% of patients with (SCI) and causes considerable disability for most. Other studies also show that Spasticity, which becomes obvious only following the resolution of spinal shock, is a common sensation in (SCI). Earlier studies show that 65-78% of people with (SCI) have symptoms of spasticity (Adams and Hicks 2005).

Regarding to the level and type of injury, the results point out that 92 (73%) the majority of study individuals are

paraplegic and 69 (55%) have incomplete injury. This result agrees with Aito, et. al., (2003) who discovered that the majority of the study members have incomplete paraplegia. As well as, level and completeness of injury is associated with etiology of injury. Gunshot wounds and medical and surgical complications typically resulted in paraplegia, especially T7-S3 (45.9% and 43.7%, respectively). Diving injury, in contrast, usually led to tetraplegia (44.0% C1-C4 and 52.4% C5-C8). The majority of gunshot wounds and motorcycle crashes led to a complete injury (64.6% and 51.8%, respectively) (Chen, et. al., 2013).

Regarding to the location of injury, the results show that 52(41%) the majority of study individuals are thoracic vertebrae injury and 45(36%) are cervical spine injury. In addition, 24(19%) lumbar and 5 (4%) are Sacral vertebrae. This result agrees with Deconinck H., (2003) that the neurological levels of (SCI) were thoracic 47.0%, lumbar 45.7%, cervical 6.7% and sacral 0.6%, representing a complete lesion in 19% and an incomplete lesion in 80% of the conditions.

Based on the duration of injury, the 87 (69%) most studied subjects are (< I year) and 24 (19%) are injured before (1-5) years. This result is reinforced to numerous of studies which mentioned that (SCI) is a significant medical condition, occurs most regularly in younger ages and leading lack of labor. About 50% of spinal cord injuries occur between the ages of 16 and 30 years (Unruh ML., et. al., 2008; Ohayon MM., et. al., 2004; and Biering-Sørensen F., Biering-Sørensen M., 2001).

The researcher perspective that the dominant duration of injury as showed recently in the current study the spinal cord injured people are have a tendency to continue with the follow-up and browsing of physiotherapy team post release period either for treatment or for seeking medical services.

5. Conclusion

The results of the study concluded that the following cases, the most common in the spinal cord injury were as following: people who are living in urban areas, young males, shell or gunshots injuries, paralysis of the lower extremities, injuries with incomplete damage, and thoracic injuries followed by cervical vertebrae. In addition, spinal cord injuries are associated with a number of complications which involving all the body's systems. The most common complications among patients include: edema, slow motion, chronic urinary tract infections, impotence, muscle spasm, muscle atrophy, chronic pain of back and neck, and the loss of teeth. Moreover, the results of the study indicate that spinal cord injury does not affect the continuity of the marital relationship of persons but affects the continuity of the work of people.

6. Recommendations

The current study recommends the need to conduct comprehensive educational lectures for patients and health care providers on the burdens and complications that may occur after spinal cord injuries for the purpose of raising awareness of health and psychosocial and to follow the correct ways to deal with the case of injury. Moreover, most of patients also need to open branches of rehabilitation centers which will contribute to the distribution of aids for patients with spinal cord injuries in the region.

References

[1] Adams MM., Hicks AL., Spasticity after spinal cord injury. Spinal cord (2005) , P.P: 86-577.
[2] Aito SD. , Andrea M. , Werhagen L., et. al., Neurological and functional outcome in traumatic central cord syndrome. 2003, PP: 292- 297.
[3] Atrice BS, Morrison SA, McDowell SL, Ackerman PM, Foy TA. Traumatic spinal cord injury. In: Umphred DA (ed). Neurological Rehabilitation, 5th edn. Mosby Elsevier: USA, 2007, P.P: 605–657.
[4] Berkowitz M, O'Leary PK, Kruse DL, Harvey C. Spinal cord injury: an analysis of medical and social costs. New York: Demos Medical Publishing; 1998; P.P: 17-37.
[5] Biering-Sørensen F, Biering-Sørensen M.: Sleep disturbances in the spinal cord injured: an epidemiological questionnaire investigation, including a normal population. Spinal Cord (2001); P.P: 505-513.
[6] Caliri MH. Spinal cord injury and pressure ulcers. Nurs Clin North Am 2005; P.P: 47, 337.
[7] Cardenas DD et. al. Impact of urinary tract infection educational program in persons with spinal cord injury. The Journal of Spinal Cord Medicine, 2004, P.P: 47-54.
[8] Charlifue S, Lammertse DP, Adkins RH. Aging with spinal cord injury: changes in selected health indices and life satisfaction. Arch Phys Med Rehabil 2004; P.P:1848–1853.
[9] Chen D, Nussbaum SB. The gastrointestinal system and bowel management following spinal cord injury. Phys Med Rehabil Clin N Am 2000; P.P:45–56.
[10] Chen Y, Tang Y, Vogel LC, DeVivo MJ. Causes of Spinal Cord Injury. Topics in Spinal Cord Injury Rehabilitation. 2013; P.P:1-8.
[11] Deconinck, H: The health condition of spinal cord injuries in two Afghan towns, Spinal Cord 2003, VL 5, 41, P.P:303-309.
[12] Dryden DM, Saunders LD, Jacobs P, et al. Direct health care costs after traumatic spinal cord injury. J Trauma. 2005; P.P: 9,443.
[13] Franceschini, M., Di Clemente, B.,Rampello, A., Nora, M., Spizzichino, L. (2003) Longitudinal outcome 6 years after spinal cord injury. Spinal Cord; P.P:5, 280.
[14] Furlan JC, Sakakibara BM, Miller WC, Krassioukov AV. Global incidence and prevalence of traumatic spinal cord injury. Can J Neurol Sci. 2013 Jul; P.P:64,456.
[15] Garcia Leoni ME, Esclarin De Ruz A. Management of urinary tract infection in patients with spinal cord injury. Clin Microbiol Infect 2003; P.P: 5, 780.
[16] Gorgey AS, Chiodo AE, Zemper ED, Hornyak JE, Rodriguez GM, Gater DR. Relationship of spasticity to soft tissue body composition and the metabolic profile

in persons with chronic motor complete spinal cord injury. J Spinal Cord Med 2010; P.P: 6-15.
[17] Hagen EM et al. A 50-year follow-up of the incidence of traumatic spinal cord injuries in western Norway. Spinal Cord, 2010, 48:313-318.
[18] Jamil F. Towards a catheter free status in neurogenic bladder dysfunction: a review of bladder management options in spinal cord injury (SCI). Spinal Cord 2001; P.P:61, 355.
[19] Joseph C, Delcarme A, Vlok I, Wahman K, Phillips J, Nilsson Wikmar L. Incidence and aetiology of traumatic spinal cord injury in Cape Town, South Africa: a population-based study. Spinal Cord 2015; P.P: 692-696.
[20] Kennedy, P., Duff, J. Post-traumatic stress disorder and spinal cord injuries. Spinal Cord, (2001), P.P:1-10, 39.
[21] Kennedy, P., Rogers B.A.: Anxiety and depression after spinal cord injury: a longitudinal analysis. Arch Phys Med Rehabil, (2000) , P.P:81, 932-937.
[22] Kreuter M, Sullivan M, Dahllof AG, Siosteen A. Partner relationships, functioning, mood and global quality of life in persons with spinal cord injury and traumatic brain injury. Spinal Cord 1998; P.P:36, 252–261.
[23] Kreuter M., Siosteen A., Erkholm, B., Bystrom, U., Brown, D.J. Health and quality of life of persons with spinal cord lesion in Australia and Sweden. Spinal Cord; (2005) , P.P: 43, 123-129.
[24] Kreuter, M.; Agneta S.; and Fin B.: Sexuality and Sexual Life in Women withSpinal Cord Injury: a Controlled Study, Journal OF Rehabilitation Medicine, 2008, Vol (40), No (1), P.P: 61–69.
[25] Kreuter, M.; Agneta S.; and Fin B.: Sexuality and Sexual Life in Women withSpinal Cord Injury: a Controlled Study, Journal OF Rehabilitation Medicine, 2008, Vol (40), No (1), P.P: 61–69.
[26] Liem NR, McColl MA, King W, Smith KM. Aging with a spinal cord injury: factors associated with the need for more help with activities of daily living. Arch Phys Med Rehabil 2004; P.P:77, 85, 1567.
[27] Spinal Cord Injury Information network , 2002 | Website Design by MCG Web Development, Inc.
[28] National Spinal Cord Injury Statistical Center, Facts and Figures at a Glance. Birmingham, AL: University of Alabama at Birmingham, 2016; P.P:1-2.
[29] Noonan VK, Fingas M, Farry A, et al. Incidence and prevalence of spinal cord injury in Canada: a national perspective. Neuroepidemiology. 2012; P.P:38,219–226.
[30] O'Connor PJ. Forecasting of spinal cord injury annual case numbers in Australia. Arch Phys Med Rehabil. 2005 Jan; P.P: 48-51, 86.
[31] Ohayon MM, Carskadon MA, Guilleminault C, Vitiello MV (2004) Meta-Analysis of quantitative sleep parameters from childhood to old age in healthy individuals: Developing normative sleep values across the human lifespan. Sleep; P.P:27, 1255-1273.
[32] Ontario Case Costing Initiative. Costing analysis tool .Toronto (ON): Ontario Case Costing Initiative, 2011; P.P:4-109.
[33] Ottomanelli L, Lind L. Review of Critical Factors Related to Employment After Spinal Cord Injury: Implications for Research and Vocational Services. The Journal of Spinal Cord Medicine. 2009; P.P:32, 503-531.
[34] Rekand T, Hagen EM, Grønning M. Spasticity following spinal cord injury. Tidsskr Nor Laegeforen. 2012; P.P:132, 970–973.
[35] Statistics Canada. Consumer price index (CPI) [Internet]. Ottawa (ON): Statistics Canada; 2010; P.P:18-61. [Cited 2011 Nov 15].
[36] Strauss DJ, Devivo MJ, Paculdo DR, Shavelle RM. Trends in life expectancy after spinal cord injury. Arch Phys Med Rehabil. 2006 Aug; P.P: 85, 87, and 1079.
[37] Unruh ML, Redline S, An MW, Buysse DJ, Nieto FJ, et al. (2008) Subjective and objective sleep quality and aging in the sleep heart health study. J Am GeriatrSoc; P.P:1218-1227.
[38] World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland, Printed in Malta 2013; P.P:6-28. Web site (www.who.int).
[39] World Health Organization. WHODASII, disability assessment schedule, training manual WHO classification, assessment and survey team. WHO. Geneva 2000, P.P:1–12.