

Prevalence of pressure sore among the spinal cord injury patients at CRP

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Abstract

Purpose: To identify the prevalence of pressure sore among the spinal cord injury patients at CRP. **Objectives:** The objectives of the study were to find out the information about the socio-demography and developing pressure sore, calculate the number of patients with pressure sore in per hundred SCI patients, determine the common factors that influence pressure sore, To inspect the degree of pressure sore which mostly occur at CRP, and evaluate the frequency of pressure sore among the complete, incomplete paraplegia and tetraplegic SCI patients. **Methodology:** A cross sectional research design was carried out in this study; purposive sampling technique was used to collect the data from 50 participants among the SCI patients at CRP. A questionnaire was used to collect data and data was collected by face to face interview. Data were numerically coded and captured by using an SPSS 17.0 version software program and descriptive statistics was used for data analysis which focus to table, pie chart and bar chart. **Results:** The findings of the study provided a baseline of information prevalence of pressure sore among the spinal cord injury patients at CRP. The finding of the study was that 28% SCI patients were suffered from pressure sore at CRP. Most of the patients have poor socioeconomic status and low literacy rate. Majority has no knowledge of proper transferring technique which is important for prevent pressure sore and they are not aware about taking a lift timely and avoiding friction to prevent pressure sore. **Conclusion:** The prevalence of pressure sore among the spinal cord injury patients at CRP was 28%. This result provide background information that may be useful in giving more attention to design the best-practice protocols for prevention and treatment of pressure sore, thereby reducing their prevalence.

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Introduction

Pressure sore can be defined as “area of localized damage to the skin and underlying tissue caused by pressure, shear, friction or a combination of these (Conva Tec Inc 2011). Pressure sores are a very common problem for individuals with restricted mobility. Despite the current treatment and prevention attempts, Pressure ulcers remain a serious medical problem commonly found among hospitalized individuals (Luidhardt, 2011).

Approximately 10% of hospitalized and 5% of community-living patients is affected by pressure sore (Gorecki et al., 2009). These are form as a result of prolong pressure that restricts blood flow to certain areas of the skin. This pressure damages the skin and underlying tissue causing the risk of infection and tissue death (ConvaTec Inc 2011). The people with spinal cord injury remain at the high risk throughout their lifetimes because of decreased mobility and lack of sensation coupled with other physiological changes (Bates-Jensen et al., 2009).

The elderly being at the highest risk with approximately 70% of all pressure sore occurring in elders. In those individuals who develop pressure sore, approximately 60% occur in the acute care setting – usually within the first two weeks of hospitalization. With the increased acuity of those admitted to hospital, it is estimated that 15% of elderly patients will develop pressure ulcers within the first week of hospitalization. In the long term care setting, pressure ulcers are most likely to develop within the first four weeks of admission (Registered Nurses' Association Of Ontario, 2005).

Many clinical observations and research have demonstrated human sufferings from pressure sore which profound negative effect on general physical health, socialization, financial status, body image etc (Henzel et al., 2011). Many cross-sectional studies of subjects with SCI showed that the prevalence of pressure sore increased as time since injury increased. Neurologically impaired skin with long-term structural and physiological changes may play an important role in the development of pressure sore among subjects with longstanding SCI (Chen et al., 2005).

The prevalence of pressure sore in individual American hospitals varies widely ranging from 4.7% to 29.7%, in the UK, several large multi-centre studies show pressure sore prevalence varies from 6.6% to 18.6%. The prevalence of pressure sore in Australian health care settings between 1983 and 2002, ranges from 3% to 36.7%. Only a small number of prevalence studies have been reported in South East Asia and Africa. The prevalence of pressure sore in three Singaporean hospitals caring for acute and rehabilitating patients was 9% to 14% , and in one rehabilitation hospital in Hong Kong this was stated as 21% (Prentice et al., 2003)

Methodology of the Study:

Study design:

A cross sectional study was chosen to conduct the study. It is the simplest variety of descriptive or observational epidemiology and also known as surveys are a useful way to gather information on important health-related aspects of people's knowledge, attitudes, and practices. A survey is a research technique which involved collecting

data from a large number of people, so that a general overview of the group could be obtained.

Study population and sampling:

The study population is any set of people or events from which the sample is selected and to which the study results will generalize. In this study the study population was all the SCI patients of CRP and the samples are the SCI patients those staying in SCI unit of CRP, Savar, Dhaka. A group of people or events drawn from a population are known as sample. About 50 SCI patients were taken purposively as sample for this study.

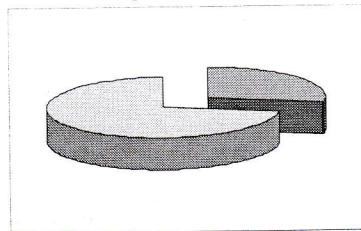
Data analysis:

Data were numerically coded using an SPSS 17.0 version software program. Data was analyzed through descriptive statistics which focused to table, pie chart and bar chart.

Results:

Prevalence of pressure sore:

Among the 50 participant 28% (n=14) participants were suffered from pressure sore and 72% (n=36) participants were not suffered from pressure sore.



Male and female ratio:

Among the 50 participants 82% (n= 41) were male and 18% (n=9) were female. And among the 14 participants who were suffered from pressure sore 92% (n=13) were male and 8% (n=1) were female.

Age frequency of the participants:

Among the 50 participants from whom data were collected the lowest age was 11 and highest age was more than 50 years. And frequency was 24% (n=12) participants in between 11-20 years, 28% (n=14) participants in between 21-30 years, 30% (n=15) participants in between 31-40 years, 6% (n=3) participants in between 41-50 years and 12% (n=6) participants are more than 50 years.

Occupation:

Among 50 participants the frequency of occupation was 30% (n=15) participants were farmer, 4% (n=2) were carpenter, 18% (n=9) were tailor, 6% (n= 3) housewife, 20% (n=10) were students and 22% (n=11) were from other occupation.

Information about type of injury and pressure sore:

The 14 participants who suffered from pressure sore among them complete paraplegia presented in 64.3% (n=9), incomplete paraplegia presented in 7.1% (n=1), complete tetraplegia presented in 14.3% (n=2),

incomplete tetraplegia presented in 14.3% (n=2) participants. And the 36 participants who had no pressure sore among them 38.9% (n=14) participants had complete paraplegia, 41.7% (n=15) participants had incomplete paraplegia, 16.7% (n=6) participants had complete tetraplegia and 2.1% (n=1) participants had incomplete tetraplegia.

Frequency of site of pressure sore:

Among 50 participants from whom data were collected 14 were suffering from pressure sore. The frequency of the site of pressure sore were 20% (n=10) participants got pressure sore in buttock, 6% (n=3) participants got pressure sore in hip and 2% (n=1) participants got pressure sore in ankle.

Frequency of degree of pressure sore:

The frequencies of degree of pressure sore were that 35.7% (n=5) participants had stage-I pressure sore, 28.6% (n=4) participants had stage-II pressure sore, 21.4% (n=3) participants had stage-III pressure sore and 14.3% (n=2) participants had stage-IV pressure sore.

Frequency of taking lift:

Among 50 participants the frequency of taking lift are that 46 participants take lift properly and rest 4 participants do not take lift properly. The percentages are 92% participants take lift properly and 8% participants do not take lift properly.

Information about taking lift and pressure sore:

Among 14 participants who had pressure sore 92.9% (n=13) participants took lift properly and 7.14% (n=1) participant did not take lift properly. And the other 36 participants who had no pressure sore 91.7% (n=33) participants took lift properly and 8.3% (n=3) participant did not take lift properly.

Information about friction:

Among 14 participants who got pressure sore 50% (n=7) participants avoid friction and 50% (n=7) participants do not avoid friction. And the 36 participants who had no pressure sore among them 58.3% (n=21) participants avoid friction and 41.7% (n=15) participants do not avoid friction.

Discussion:

The present study used a cross-sectional design to find out the prevalence of pressure sore among the SCI patients in CRP. The results of this study showed that the prevalence of pressure sore among the SCI patients at CRP was 28% which is comparatively higher than other studies. A European study published in 2007 and conducted in five countries (Belgium, Italy, Portugal, UK, and Sweden) reported Pressure ulcer prevalence (Stage I through Stage IV, based on the National Pressure Ulcer Advisory Panel scale) of 18.1% (Zhao, 2010).

It was found that male were more affected than female the percentage of male and female who suffered from

pressure sore were 92% male and 8% female ; as male were more got spinal cord injury than female. In this study it was also found that 24% pressure sore seen in between 11-20 years of age, 28% in between 21-30 years, 30% in between 31-40 years and, 6% in between 41-50 years and 12% > year of age. So it is seen that middle age person were more affected.

In this study most of the participants came from the rural area which was about 84% and had a low socioeconomic status. Majority had the monthly income that 56% participants earned monthly in range of 1000-5000 taka, 36% participants earned monthly in range of 6000-10000 taka and most of them had only one earning member in their family. Maximum participants of this study were farmer, it was 30%.

This study found out that friction may be one of the risk factors for developing pressure sore at CRP but there was a doubt as this study showed that most of the participants avoid friction. Among the participants who had pressure sore 50% avoid friction and 50% did not avoid friction and among those who had no pressure sore avoid friction 58.3% participants and did not avoid friction 41.7% participants.

Conclusion and Recommendation:

In general from this study can be concluded that people with SCI are vulnerable across their lifespan to tissue breakdown or pressure sore that can interfere with initial rehabilitation in the acute post-traumatic recovery phase and successful reintegration into the communities, as well as lead to more serious medical complications. Pressure ulcers are responsible for physical, social, vocational, and economic costs and impair quality of life.

The prevalence of pressure sore among the SCI patients at CRP is 28%. This result is significantly high to the complete paraplegic patients and most of them who have no sense about bowel and bladder movements. Most of the patients have poor socioeconomic status and low literacy rate. Majority has no knowledge of proper transferring technique which is important for prevent pressure sore and they are not aware about taking a lift timely and avoiding friction to prevent pressure sore. So it is necessary to grow more awareness about pressure sore among the SCI patients and their caregiver. This study showed that the prevalence of pressure sore among the SCI patients at CRP was 28% which is only at CRP, as there was time limitation it was not able to gather huge amount of participant and for this result cannot be generalized So for further study it is strongly recommended to increase sample size to generalize the result in all of the SCI patients in Bangladesh. As a consequence of the research, it is recommended that a larger sample should be chosen randomly for the cross sectional study at the whole Bangladesh to generalize this study.

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