# ORIGINAL RESEARCH

# Sexual Health of Women with Spinal Cord Injury in Bangladesh

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## *ABSTRACT*

***Purpose:*** *To identify factors influencing the sexual health of women with spinal cord injury (SCI) in Bangladesh.*

***Methods:*** *This study used both qualitative and quantitative methods. The quantitative part used a case-control design. Cases were women with SCI and controls were age-matched women without SCI. Questionnaires were used to collect data concerning the sexual health status of women. Multivariate logistic regression was done to determine which factors had an independent effect on sexual health. In-depth interviews were held with a sub-group of women from both groups, and interview guides were used. The in-depth interview data was subjected to content analysis.*

***Results:*** *In total, 92 questionnaires were given out and 30 in-depth interviews were conducted. A relationship was found between physical factors and sexual health, as pain, vaginal dryness and physical discomfort were mentioned more frequently among women with SCI. Environmental and emotional factors such as stigma, satisfaction of the husband and support from the husband and friends had an influence on the sexual health of the women with SCI, as well as the other group of women.*

***Conclusions:*** *From interviews it became clear that most of the women with SCI were dissatisfied with their sexual health as compared to the women without SCI. However, environmental and emotional factors such as attitudes, support and stigma, rather than physical factors, were the most important influences on sexual health in both groups of women.*

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***Key words:*** *Bangladesh, women's sexual health, spinal cord injury, sexual satisfaction*

## INTRODUCTION

People with disability are among the poorest of the poor in Bangladesh (Momin, 2004). More than coping with the physical limitations, it is the attitudes and perceptions of disability that are very challenging. There is little awareness of disability, the etiology and the effect on individuals, families and society. Traditional views of disability still exist, especially in rural areas, where it is often seen as a curse from God. Women in Bangladesh are dominated by a traditional social system and treated as second-class citizens. Those with a disability are even more vulnerable and face double discrimination; being female and having a disability. Many of them face the daily reality of domestic violence, abuse and discrimination in the workplace. A study released by the United Nations Population Fund (2000) reported that 47% of the women in Bangladesh had suffered physical abuse by a male partner.

An important health problem in Bangladesh involves injuries and diseases affecting the spinal cord, as these carry high rates of disability and mortality (Hoque et al, 1999). From research it can be concluded that the high incidence of spinal cord injury is due to the country's mainly agriculture-based economy. The three main causes of traumatic spinal cord injury in Bangladesh are falls from a height, falling while carrying a heavy load on the head, and road accidents (Momin, 2004). There are no specialised hospitals offering comprehensive rehabilitation for people with spinal cord injury in Bangladesh, apart from one non-governmental organisation - the Centre for the Rehabilitation of the Paralysed (Hoque et al, 1999). The only one of its kind in the country, this organisation was founded in 1979 in response to the need for services for persons with spinal injuries. Today CRP has developed into an important international organisation.

Rehabilitation needs a multidisciplinary approach which includes the provision of and access to education. To improve the quality of life of persons with disabilities, an essential area of attention in rehabilitation is sexuality (Cox et al, 2001). Sexual health of persons with disabilities has been neglected in communities as well as in research. According to the World Health Organisation (WHO) working definition (2002), "sexual health is a state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction

or infirmity". Sexual health constitutes a fundamental part of people's lives and is also included in the human rights of women.

Despite the changes that occur in sexual functioning after SCI, it is clear from previous studies that sexual desire and the need for sexual activity still remain (Fisher et al, 2002). Besides, physical and sexual violence against women with disabilities occurs at alarming rates within families, in institutions, and throughout society (Basson et al, 1998). Although sexual health of women with SCI is considered as one of the important factors of reintegration into the community (Cox et al, 2001), research regarding the sexuality of those with SCI concerns predominantly the male population.

Abramson et al (2008) concluded that women with SCI have the perception that improved sexual functioning would improve their quality of life. More support of sexual health after SCI will lead to satisfactory sex life and improve all other aspects of human functioning as well as the rehabilitation (Fisher et al, 2002).

The sexual health of women with SCI has only recently been addressed and studies are limited to small numbers of women (Ferreiro-Velasco et al, 2005). Therefore, this study aimed to answer the research question: What factors have an influence on sexual health of women with spinal cord injury in comparison with women without spinal cord injury in Bangladesh?

Since sexual health is an important issue in the holistic rehabilitation process, this study aims to help CRP improve its rehabilitation strategies for women with SCI and to make people more aware of the status of women with disabilities.

## METHOD

### Research Design

This study used both quantitative and qualitative methods. The quantitative part used a case-control design. Cases were women with SCI and controls were age-matched women without SCI. The qualitative part consisted of comparative in-depth interviews with a sub-group of women from both groups.

### Study Population and Sample Selection

The women with SCI were recruited through existing databases from CRP. The inclusion criteria for the case group were formulated as follows: women with spinal injury of traumatic or non-traumatic etiology, age between 18 and

50 years at the time of study, living in the community and having completed the rehabilitation programme at CRP from 1999-2009. Exclusion criteria were: women who were unmarried, because sexual intercourse before marriage is not permitted according to Bangladesh culture. Those over 50 years of age were also excluded because, in Bangladesh, women in this age group were not considered to be sexually active and their sexual health could differ due to age. To compare the sexual health of women with SCI, a control group of women without SCI was selected with the help of the snowball method; women with SCI were asked to recommend similar women without SCI from the same community.

**Data Collection Methods**

Two methods were used to collect data concerning the sexual health status of women in Bangladesh.

1. Individual structured Questionnaires

The structured questionnaire consisted of general socio-demographic questions and, for the women with SCI, a number of SCI-specific questions. The 33 questions were subdivided into five areas derived from the WHOQOL; physical factors, emotional factors, environmental factors, spiritual factors and education. All questions were graded on a 5-point Likert scale. This scale was chosen because it adds a neutral point. The questionnaire was developed by the researchers in consultation with peers, because no existing questionnaire was relevant and valid to assess the different aspects of sexual health. It was pilot-tested among Bangladesh women at CRP. The questions were based on a validated questionnaire from the WHO (1995), namely the WHOQOL-100, which is designed to measure different aspects of quality of life. It was decided to conduct questionnaire interviews first, because of the sensitive nature of the topic and the taboo surrounding 'sexual health'.

2. Individual in-depth Interviews

To get in-depth information regarding the sexual health of women with SCI and those without SCI, in-depth interviews were held with women from both groups. The interview topics were the same as the ones in the questionnaire, and open questions were followed by more in-depth questions.

**Place of Interview**

The women included in this study were visited in their own houses in the community. The interviews took place in a familiar atmosphere, where women felt free to speak.

### Data Analysis

Multivariate logistic regression analysis was used to examine the significance of association between variables. Descriptive statistics were used for demographic data. Qualitative data was analysed through content analysis. The outcome variable was level of satisfaction with sexual health.

### Validity and Reliability of the Data

The researchers followed the WHOQOL to develop the questionnaire which was validated in Bangladesh (WHO, 1995). After the content validity and face validity were pilot-tested in CRP, the questionnaire was adjusted to ensure that all questions could be understood. All questionnaires and interviews were conducted in Bangla by the same female interviewer, and data was collected using a digital voice recorder. As a few women did not agree to record their voices, the remaining data was collected by making notes on paper. During the data collection the women's husband and in-laws were not present, to ensure that more accurate information would be provided.

### Ethical Considerations

The study was approved by the Ethics Committee of CRP. Further ethical requirements were met by using a consent form which described the study purpose. Permission was asked and individuals were not pressed to participate. The procedure followed ensured that information remained confidential. As the questions were sensitive in nature, strict care was taken to ensure that answers were anonymous and that no personal data was published. Any information that revealed the identity of the participant was destroyed at the end of the study, so that no emotional or physical harm would be caused to them.

## RESULTS

### Socio-demographic Characteristics

One hundred women with SCI, who were admitted to the Spinal Cord Unit of CRP between 1999 and 2009, were included. At the time of the study, 10 of the women were no longer alive, 15 could not be located, 8 could not be visited and 9 had moved or were not at home. Six women were excluded because of their age and 15 women were excluded because their husbands lived abroad or had left them after they were injured and they no longer had sexual relations. The

remaining 37 women with SCI formed the study sample reported here and 55 women without SCI formed the control group.

A total of 92 questionnaires were completed by women in six districts of the Dhaka division. Table 1 lists the background characteristics of the women with and without SCI. Of the 37 women with SCI, the average age was 34.9 years; the average age of the women without SCI was 28.2 years. In both groups, the majority of the women were married. In the group of women with SCI, 5.4% were divorced and 2.7% were widowed, and in the control group 9.1% were separated from their husbands. No religious differences were found between the groups. The majority of the women with SCI were Muslim (97.3%) and this was the same as in the other group (96.4%). The other religions represented were Hindus (2.7% of the women with SCI and 1.8% of the women without SCI) and Christians (1.8% of the women without SCI). In both groups, the highest literacy level was either primary or secondary education. Only 16.2% of the women with SCI and 7.3% of the women without SCI had completed higher education; 8.1% of the women with SCI and 10.9% of the women without SCI were illiterate. Most of the women were housewives, and only 8.1% of the women with SCI and 10.1% of the women without SCI worked as labourers. Among the group of women with SCI, 43.2% lived in rural areas and 24.3% in the city, as compared to 50.9% and 30.9% respectively, in the other group. The other 29.7% of the women with SCI and 16.4% of the women without SCI lived in semi-rural villages. Only two women, one woman with SCI and one woman without SCI, lived in the poverty-stricken slum areas.

**Table 1: Background characteristics of women with spinal cord injury (SCI) and women without SCI.**

| Background characteristics | Women with SCI (n=37) | Women without SCI (n=55) |
|---|---|---|
| **Socio-demographic data** | | |
| **Age (years)** | | |
| Mean (SD) | 34.9 (7.2) | 28.2 (7.0) |
| Median (range) | 35 (18-45) | 26 (18-50) |
| **Marital status, n (%)** | | |
| Married | 34 (91.9) | 50 (90.9) |
| Divorced | 2 (5.4) | 0 |
| Widowed | 1 (2.7) | 0 |
| Separated | 0 | 5 (9.1) |

| | | |
|---|---|---|
| **Religion, n (%)** | | |
| Muslim | 36 (97.3) | 53 (96.4) |
| Hindu | 1 (2.7) | 1 (1.8) |
| Christian | 0 | 1 (1.8) |
| **Highest level of education, n (%)** | | |
| Primary education | 13 (35.1) | 21 (38.2) |
| Secondary education | 15 (40.5) | 24 (43.6) |
| Higher education | 6 (16.2) | 4 (7.3) |
| None | 3 (8.1) | 6 (10.9) |
| **Occupation, n (%)** | | |
| Housewife | 31 (83.8) | 49 (89.1) |
| Labourer | 3 (8.1) | 6 (10.9) |
| Other | 3 (8.1) | 0 |
| **Living area, n (%)** | | |
| Urban | 9 (24.3) | 17 (30.9) |
| Rural | 16 (43.2) | 28 (50.9) |
| Semi-rural village | 11 (29.7) | 9 (16.4) |
| Slums | 1 (2.7) | 1 (1.8) |

SD: standard deviation.

A statistical analysis was performed on the 92 questionnaires (37 women with SCI, 55 women without SCI). Logistic regression was used, with the dependent variable being poor sexual health (scale 0-5 in questionnaire), versus good sexual health (scale 6-10 in questionnaire).

## Physical Factors

Among women with SCI, 46% reported physical problems and 16% of these reported persistent physical problems during sexual intercourse. The same percentage of women with physical problems (46%), reported physical discomfort associated with sexual intercourse, while pain was reported by 32% of the women with SCI. Finally, women with SCI faced more physical problems than able-bodied women. Physical distress was not mentioned at first, but after some careful probing they came out with some of the problems they experienced during sexual intercourse. One woman with SCI mentioned: *"my both legs are spastic sometimes and during sexual intercourse this bothers me a lot".*

All the women who participated in the study were involved in sexual relationships. Before injury, 86% of the women with SCI reported having sexual

intercourse at least once a week, with only 38% having intercourse after they were injured (McNemar's test p< 0.001). Among women without SCI, 85% had sexual intercourse at least once a week.

Among the women with SCI, 77% were satisfied or even very satisfied with their experience of sexual intercourse before injury, while after injury only 24% continued to be satisfied (McNemar's test p= 0.001). The main reason for not being satisfied was a lack of desire. Women with SCI more often reported a negative sexual experience and felt less appreciated in an intimate relationship. In both groups (women with SCI and women without SCI) 53% mentioned that they only had sex to satisfy the husband and to fulfil his demands. One able-bodied woman expressed this: *"I do not feel any interest in sexual intercourse, but I feel that it is just a part of life and it is important to do, to maintain the family and relation with my husband"*. Of the able-bodied women, 56% were satisfied with the quality of their sexual relationship. These results are presented in Figure 1.

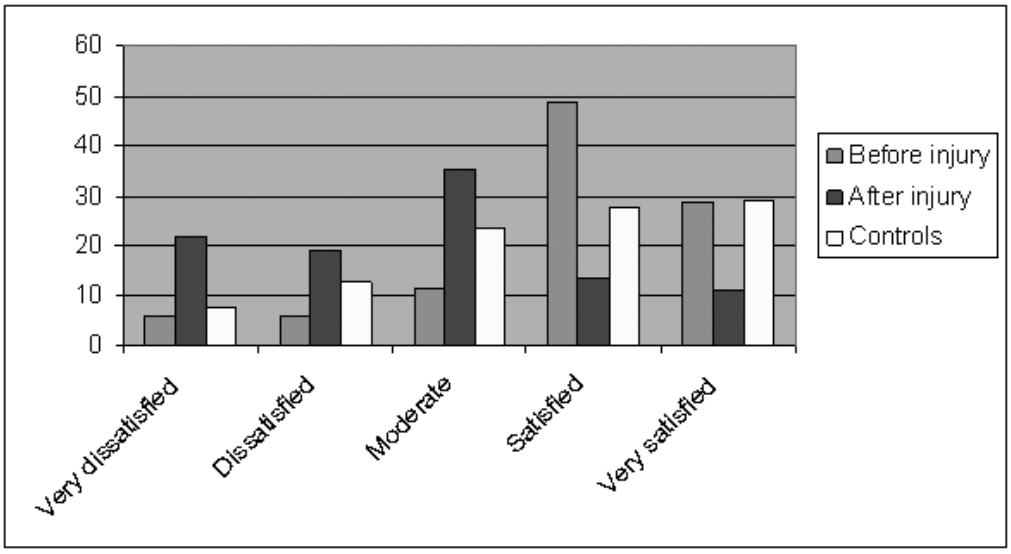


**Figure 1: Satisfaction with sexual life for women with SCI before and after injury, and for controls (%)**

Table 2 illustrates the relationship between the explanatory factors and women's overall sexual health. Women who were dissatisfied with physical factors related to their sexual health were much more likely to have perceptions of poor overall sexual health (odds ratio (OR) 11.2, p=0.004 in multivariate analysis).

**Table 2: Risk factors for poor sexual health among women with and without spinal cord injury in Bangladesh (n=92)**

| Questions | Overall sexual health | | Univariate analysis | | | Multivariate analysis | | |
|---|---|---|---|---|---|---|---|---|
| | Poor | Good | OR | 95%CI | p-value | OR | 95%CI | p-value |
| A3. Do you face any physical problems during sexual intercourse? | | | | | | | | |
| Often/always | 13 | 41 | 0.39 | 0.16-0.96 | 0.040 | | | NS |
| Never/rarely | 17 | 21 | | | | | | |
| A8. Do you worry about your pain or discomfort during sexual intercourse? | | | | | | | | |
| Never/seldom | 14 | 44 | 0.36 | 0.15-0.88 | 0.026 | | | NS |
| Often/always | 16 | 18 | | | | | | |
| A9. How satisfied are you with your sexual health looking at physical factors? | | | | | | | | |
| Not satisfied | 11 | 6 | 5.4 | 1.8-16.6 | 0.003 | 11.2 | 2.2-58.4 | 0.004 |
| Satisfied | 19 | 56 | | | | | | |
| B3. How satisfied directly after sex? | | | | | | | | |
| Not satisfied | 14 | 14 | 2.9 | 1.2-7.5 | 0.024 | | | NS |
| Satisfied | 16 | 47 | | | | | | |
| B4. To what extent are your sexual needs fulfilled? | | | | | | | | |
| Little | 18 | 12 | 6.3 | 2.4-16.4 | <0.0001 | 13.7 | 2.8-66.3 | 0.001 |
| Much | 12 | 50 | | | | | | |
| B5. To what extent are you bothered by any difficulties in your sex life? | | | | | | | | |
| Little | 9 | 34 | 0.35 | 0.14-0.89 | 0.028 | | | NS |
| Much | 21 | 28 | | | | | | |
| B6. To what extent do any feelings or depression bother you? | | | | | | | | |
| Little | 9 | 38 | 0.27 | 0.11-0.69 | 0.006 | | | NS |
| Much | 21 | 24 | | | | | | |
| B7. How comfortable do you feel in your sex life? | | | | | | | | |
| Little | 15 | 15 | 3.1 | 1.2-7.9 | 0.015 | | | NS |
| Much | 15 | 47 | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| B8. To what extent do you worry about your sex life? | | | | | | | | |
| Little | 10 | 45 | 0.19 | 0.07-0.48 | 0.001 | | | NS |
| Much | 20 | 17 | | | | | | |
| B9. How satisfied are you with your sexual abilities? | | | | | | | | |
| Not satisfied | 8 | 6 | 3.4 | 1.1-10.9 | 0.040 | 0.19 | 0.03-1.27 | 0.087 |
| Satisfied | 22 | 56 | | | | | | |
| B10. How satisfied, do you believe, is your husband with your sexual abilities? | | | | | | | | |
| Not satisfied | 9 | 3 | 8.4 | 2.1-34.1 | 0.003 | 10.9 | 1.8-67.0 | 0.010 |
| Satisfied | 21 | 59 | | | | | | |
| B11. How satisfied are you with your sexual health looking at emotional and mental factors? | | | | | | | | |
| Not satisfied | 12 | 5 | 7.6 | 2.4-24.5 | 0.001 | | | NS |
| Satisfied | 18 | 57 | | | | | | |
| D1. How satisfied are you with the support you get from your friends, in terms of your sexual relationship? | | | | | | | | |
| Little | 23 | 25 | 4.7 | 1.8-13.0 | 0.002 | 14.4 | 3.0-70 | 0.001 |
| Much | 7 | 37 | | | | | | |
| D2. How satisfied are you with the support you get from your family, in terms of your sexual relationship? | | | | | | | | |
| Little | 18 | 25 | 2.2 | 0.91-5.4 | 0.079 | 0.21 | 0.04-1.1 | 0.063 |
| Very | 12 | 37 | | | | | | |
| D3. How satisfied are you with the support you get from your husband in terms of your sexual relationship? | | | | | | | | |
| Not satisfied | 14 | 12 | 3.6 | 1.4-9.5 | 0.008 | | | NS |
| Satisfied | 16 | 50 | | | | | | |
| S3. To what extent do your spiritual beliefs help you to accept difficulties in sexual life? | | | | | | | | |
| Moderate | 6 | 5 | 0.54 | 0.15-1.92 | 0.338 | 0.13 | 0.02-0.85 | 0.033 |
| Extreme | 56 | 25 | | | | | | |

**Emotional Factors**

Lack of fulfilment of a woman's sexual needs was strongly associated with poorer overall sexual health (OR 13.7, p=0.001). If women were not satisfied with their sexual abilities, this reduced the perception of poor sexual health, but with marginal significance (OR 0.19, p=0.087). The extent to which they perceived their husbands to be satisfied was also a strong determinant. Perceived dissatisfaction of the husband was associated with poorer sexual health (OR 10.9, p=0.010).

The data derived from the in-depth personal interviews also suggests that for some women, emotional factors seem to have a negative influence on the quality of their sexual health. One able-bodied woman mentioned: *"I can't accept my husband because my marriage was not chosen, I feel crazy by the feeling having sex with him"*.

**Environmental Factors**

Satisfaction with support of friends had the opposite effect to satisfaction with support from family (OR 14, p=0.001 vs. OR 0.21, p=0.063, respectively). Of the women with SCI, 19% reported high levels or extremely high levels of stigma. In all cases, stigma from the side of the husband was directed at the inability to have sex, to do the household activities and to maintain a happy family life. However, stigma from the side of the in-law family and from the community was more often mentioned as a factor that influences quality of sexual health. Nearly 90% of the women with SCI and the able-bodied women mentioned that they are coping with their situation as it is, even though they do face some difficulties regarding their sexual life. Twenty percent of the women with SCI faced so much difficulty and stigma that they mentioned: *"I would rather die than stay alive"*. In contrast, it became evident that the majority of the women with SCI received more support from their husbands than did able-bodied women, and their husbands were more understanding. Sixty-seven percent of the women with SCI had husbands who were responsive to their problems, while 33% had less accepting husbands who forced their wives to have sex, or who continued with it although they experienced discomfort. One woman with SCI expressed her opinion: *"If I am not interested to have sex, my husband can become very angry and might force me"*.

**Spiritual and Religious Factors**

Eighty-seven percent of the women with SCI mentioned that religion gave them support to face difficulties. Women mentioned that God gave them strength and

helped them to cope with their new (sexual) life. Nevertheless, 13% mentioned that they were disappointed and could not find a reason why God punished them, as they did not commit any sin. This percentage of disappointed women assessed their sexual health as less than average. Three higher-educated able-bodied women mentioned specifically the impact of religion on their sexual health. According to them, the Muslim religion underlines that there are some rules to maintain a sexual relationship. In general, it became evident that religion played a major part in the lives of women with SCI as well as among the able-bodied women. In multivariate analysis, women who were less convinced that spiritual beliefs help in accepting difficulties in sexual life were also less likely to have perceptions of poor sexual health (OR 0.13, p=0.033).

**Education**

Opinions about the importance of sexual health education were quite similar in both groups. Ninety percent of the sample population emphasised that sexual health education was important. Experiences during data collection revealed that 60% of the women with SCI did not receive sexual health education from CRP. The CRP does have a sexual health counsellor, but her advice is not specifically about sexual health as, according to her, *"women don't face many (physical) problems regarding to sex"*. Although the majority of women stressed the importance of good sexual health education, education did not appear to be a predictor for good sexual health.

**Overall Sexual Health**

Figure 2 shows the overall sexual health of the women with SCI as well as those without SCI. For the analysis of the overall sexual health the dependent variable was maintained as categorical (0-10). Among the 92 women who filled in the questionnaire, the women with SCI assessed their overall sexual health with a mean of 6.9 (SD 2.79) and the women without SCI assessed their overall sexual health with a mean of 7.5 (SD 3.04). However, with a p-value of 0.35 this difference was not significant.

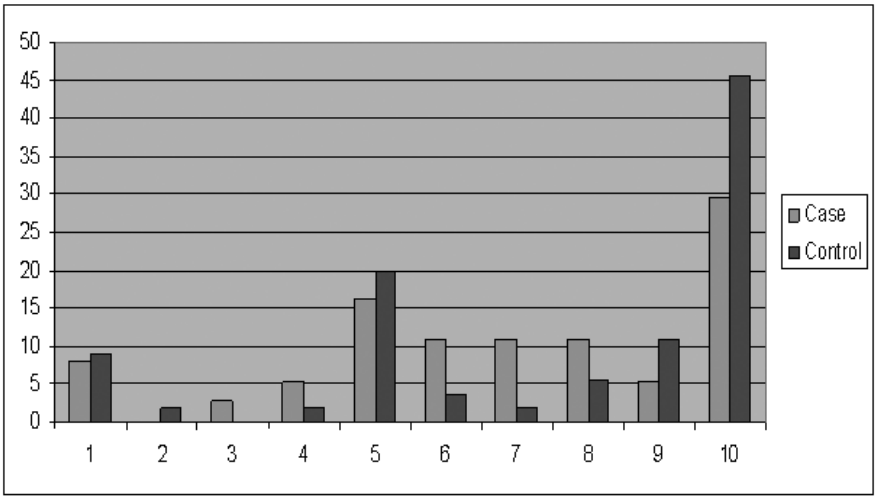


**Figure 2: Overall sexual health for the cases and for controls (%)**

Although majority of the women agreed that good sexual health was important, they gave different reasons. The main reasons listed were: it is important to satisfy the husband (30%), for a good understanding with the husband (23%), to maintain a happy family life (20%), to enjoy life (10%) and to be able to concentrate on work and daily activities (7%). Thus, it became evident that the husband-wife relationship was the most important issue for good sexual health.

## DISCUSSION

This study is unique in that it compared the sexual health of women with spinal cord injury and the sexual health of able-bodied women. The results are partly consistent with the results of other studies, in which the sexual health of women with SCI differs from that of women without SCI (Kreuter et al, 1996; Nosek et al, 1996; Kreuter et al, 2008).

It becomes evident that women with SCI in Bangladesh face more physical problems (46%) than able-bodied women (16%). This supports the hypothesis that physical factors could influence the sexual health of women with SCI. This relationship was supported by the quantitative results (OR 11.2, p=0.004). From the present study it may be concluded that vaginal dryness is the biggest physical problem among women with SCI (41%) and this percentage is more than the 23% found by Forsythe et al (2006). In contrast to other studies, urine leakage was less commonly reported by the women in Bangladesh. While it was reported by only

19% of the women with SCI, the study of Ferreiro-Velasco et al (2005) mentioned that urine leakage was the problem most commonly encountered, with more than 30% of women reporting this. The differences between these percentages could be influenced by the sample selection, the research methods used and the seriousness of injury. The other physical problems suffered during intercourse by the women with SCI did not differ from those mentioned in other studies (Ferreiro-Velasco et al, 2005; Forsythe et al, 2006). Findings in this study show that able-bodied women also face some physical problems.

Significantly fewer women with SCI were satisfied or very satisfied with their sex life after injury (24%) compared with their pre-injury sex life (77%) and compared with the able-bodied women (56%). Interestingly, the proportion of women reporting high pre-injury satisfaction was higher than the proportion reporting high satisfaction among women without SCI. This finding may be affected by recall bias, with women with SCI remembering their sex life to have been better prior to the injury compared to their current situation. However, other studies have also reported that a lower degree of sexual satisfaction is commonly described among women with SCI compared to able-bodied women (Ferreiro-Velasco et al, 2005; Kreuter et al, 2008). The percentages found in the present study differ from other findings. At 24%, the percentage of women with SCI who were satisfied with their sex life is less than the 44% found by Reitz et al (2004), the 55% found by Fisher et al (2002) and the 69% found by Ferreiro-Velasco et al (2005). The considerable difference in percentages, despite similar sample sizes used in all mentioned studies, may reflect an overall lower satisfaction with sex life among women in Bangladesh, as was apparent in the in-depth interviews.

Spinal cord injury has an impact on sexual relations, but not much on intimate relationships. Fifty percent of the women with SCI reported having a good relationship. However, considerably fewer women with SCI reported a good sexual relationship than the able-bodied women. They also reported a decrease in the frequency of intercourse. Significantly fewer women with SCI had intercourse at least once a week after injury (38%) compared to the pre-injury situation (86%), ($p<0.001$, McNemar's test). Ferreiro-Velasco et al (2005) also discovered a significant decrease ($P=0.003$) in the frequency of intercourse of women with SCI. They did not find a relationship between the decrease in the frequency of intercourse and age or characteristics of injury.

Stigma and the attitudes of other people (including the husband) were assumed to have a major influence on sexual health of women with SCI. In the interviews,

women with SCI reported stigma more often than the able-bodied women, although negative attitudes were common among these women as well. No distinction was made between disability-related stigma and other aspects of stigma. Nevertheless this study shows that women with SCI face stigma related to their disability and able-bodied women face gender-related stigma. It was recorded that among women with SCI, stigma from the community occurred more often than stigma from the husband. Even though most of the husbands were less interested in having sex post-injury, the majority of them were supportive in terms of physical and mental well-being related to sexuality. In Bangladesh, the husband-wife relationships are often not very intimate; men, in general, are not supportive of their spouses since women are supposed to maintain family life and satisfy the husband (Islam et al, 2006). Nevertheless, evidence from this study indicates that husbands may have become more supportive after their spouses were injured.

A novel finding in this study was the importance of religion in relation to sexual health. All women participants were religious, and 99% reported that religion helped them cope with difficulties in their (sexual) life. As religion is important in Bangladesh and the majority of the women were Muslim, it is probable that no clear differences appeared between the women with and without SCI with regard to the effect of religion on their sexual health. In previous studies, religion has never been addressed as a possible factor which could influence or affect sexual health. However, religion could be a predictor of sexual health among women in Bangladesh, and should therefore be taken into account in future studies, as well as in the education and counselling of women in relation to sexual health.

Recent studies show that sexual health education during rehabilitation is insufficient (Fisher et al, 2002; Kreuter et al, 2008), and this is consistent with the findings of the present study. Many participants (women with SCI and women without SCI) pointed out the importance of sexual health education. Half of the women with SCI did not receive any sexual health education from CRP and only 22% received minimal education. These percentages are lower than the 61% reported by Kreuter et al in their 2008 article. In Kreuter's sample, 40% expressed a wish to receive information, while more than half of the Bangladeshi women wanted to receive more information. Sexual health education is necessary particularly in Bangladesh where the subject is strictly taboo. Although no significant relation was found between the amount of sexual health education received and the overall sexual health of women, sexual health education is

expected to improve the sexual health of women with SCI, as it would help them to cope better with sexual problems. Although not addressed in the present study, Kreuter (2000) also emphasises that counselling of women with SCI and supporting partners may produce long-term benefits by reducing burdens and providing hope for a meaningful future.

Looking at the overall sexual health, it becomes clear that the majority of the women acknowledged the value of good sexual health. Women with SCI assessed their sexual health on average with a 6.9 and the women without SCI with a 7.5 (scale 1-10 in questionnaires). In spite of this rating, quantitative data shows that the same percentage in both groups (32%) assessed their sexual health as unsatisfactory.

This study cannot be viewed as conclusive and additional research is needed. Many women were excluded from the study because their husbands had left them after they suffered spinal cord injury. Bangladesh is not the only country where men leave their wives after they suffer from SCI; this also happens in high-income countries (Kreuter, 2000). Further research should focus on the reasons behind this problem and the way women cope with their situation. In addition, it would be important to involve the husbands of women with SCI in the study, to hear their opinions and the problems they face. Furthermore, CRP should provide more individual sexual health education. Sexual health education is needed both during rehabilitation and after the women return to their homes (Forsythe et al, 2006). According to Forsythe et al (2006), peer counselling is considered extremely important and useful. An expanded programme related to sexual health is recommended, in which specific problems women could face when they return home will be discussed. This is an important part of reintegration in the community.

## CONCLUSION

Women with SCI face particular problems related to their sexual health. They were less satisfied than able-bodied women with their sexual lives and overall sexual health, and encountered more difficulties. Environmental and emotional factors, such as attitudes of the husband, support of friends and stigma, rather than physical factors, were the most important aspects influencing their sexual health. This was true for women with SCI as well as for the able-bodied women.

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