

Original Article

Barriers and facilitators related to the health care system in spinal cord injury

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ABSTRACT

Background & Aim: The majority of studies on the facilitators and barriers to functioning in spinal cord injury (SCI) focussed on physical and psychosocial barriers/facilitators, with little emphasis on barriers and facilitators related to the health care system. The purpose of the present study was to explore the barriers/facilitators in the health care system to the functioning of persons with SCI.

Methods & Materials: The present study was a qualitative descriptive design that was conducted at the Tamale Teaching Hospital in the Northern Region of Ghana. The study employed the purposive sampling technique with the Neurosurgical Unit of the Hospital as an outlet for the selection of the sample. Thirteen participants were interviewed using an interview guide. The sample was determined by saturation and the data was analysed using thematic analysis.

Result: Treatment and management issues, health staff issues and health education issues respectively emerged as the main themes of the present study. Sub-themes such as long-term analgesic use, herbal treatment, lack of health education and high cost of treatment emerged as barriers to functioning of persons with SCI. While physiotherapy and health education were identified as facilitators to functioning, surgery emerged as both a barrier and a facilitator to functioning.

Conclusion: Addressing the barriers related to the health care system on the functioning of persons with SCI and improving on the few existing facilitators to functioning would help improve the general wellbeing of persons with SCI and also assist in their adjustment to the injury.

Introduction

Spinal cord injury (SCI) is one of the most devastating conditions that come with enormous physical, psychological, and social consequences (1, 2). The condition often strikes out of the blue and its consequences are commonly either premature mortality or at best, social exclusion (3). Globally, about 40 to 80 cases per million population are reported each year for both traumatic and non-traumatic SCI (3).

In the low-income countries, SCI is viewed as the end of a productive life as most people with SCI in these countries often survive with permanent disabilities as a result

of inadequate medical care (3). In addition, the minimally available opportunities for participation in all areas of personal and social life for persons with SCI in low-income countries make it difficult for survivors of SCI to adjust to the long term effects of the injury (5, 3).

More so, negative attitude of health care professionals, and lack of patient involvement in clinical decisions have been documented in literature as some of the challenges that persons with SCI face while on admission at the hospital (5). It has also been recognized that very little is documented about the characteristics and treatment outcomes of persons with SCI in Ghana, and according to the few data available, only 41% of persons

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with SCI in the country are able to afford the cost of diagnostic investigations as part of the management of their condition as a result of financial constraints (6). In the high income countries, health care services for persons with SCI do not cease with the discharge of the patient from the hospital after treatment; they extend to aftercare, both in medical follow-up and prevention and treatment of complications, and in ongoing support and education of the patient and his family (7). However, the situation in Ghana and other low and middle-income countries is different because the availability of quality assistive devices such as wheelchairs are limited, and medical and rehabilitation services are also minimal (3). Again, anecdotal observation by the researchers reveals that, Ghana lacks the right cadre of health staff to cater for the multifaceted health needs of persons with SCI because, the country does not have neuroscience nurses and persons with SCI are cared for by general nurses and doctors with basic medical training. The above challenges, coupled with the fact that treatment for SCI in Ghana is not covered under the National Health Insurance Scheme, often compel some of the patients with SCI to request for discharge against medical advice even before images can be done to establish the full extent of their injury and the majority of these patients often end up with traditional healers and bone setters to receive treatment (6).

A number of studies have been conducted on the facilitators and barriers of functioning among persons with SCI (6, 7, 8, 9, 10, 11). The majority of these studies, however, focused on the physical and psychosocial barriers and facilitators to functioning (12, 13, 14, 6, 15). A search on medical databases (Ebscohost, CIHNAL, Cochrane, ScienceDirect, MedLine and PubMed) revealed that limited research has been conducted on the barriers and facilitators related to the health care system in SCI. The very few studies that focused on factors related to the health care system in SCI had methodology limitations as the majority of these studies employed quantitative methods without recourse to the perspectives of the

participants (16, 17, 18). This justifies our research which employed a qualitative approach to research into the health system related factors in SCI. The study aimed to explore the perceived factors related to the health care system that either facilitate or hinder the functioning of persons living with SCI in Ghana.

Methods

The study was completed as part of the requirements for the award of Master of Philosophy degree in Nursing, which enabled the first author to explore the experiences of persons living with SCI. The study employed the qualitative descriptive design. Qualitative studies involve the study of individuals or groups in their natural settings, attempting to make sense of phenomena in terms of the meanings the individuals bring to them (18, 19).

The goal of a qualitative descriptive study is a comprehensive summarization in everyday terms, of specific events experienced by individuals or groups of individuals (23). In order to achieve a broad understanding of the health system related factors that either facilitated or hindered participants' adjustment to their SCI, a qualitative descriptive design was the best approach for the study.

The study was conducted at the Tamale Teaching Hospital (TTH). This Hospital is the third largest hospital in the country. It is the only health facility that provides neurosurgical health services in the northern part of Ghana. The TTH is also located in a catchment area with a population of approximately 2.1 million. It serves as a referral centre for tertiary medical services for the three northern regions (Northern, Upper East and Upper West Regions) of Ghana, the northern part of Brong-Ahafo region and some parts of neighbouring Togo and Burkina Faso respectively.

Purposive sampling technique was employed in selecting the sample for the

present study. A total of thirteen participants who had been diagnosed with SCI at the Tamale Teaching Hospital-Ghana participated in the study. The sample size was determined by data saturation. Saturation in qualitative research is achieved when new emerging themes are not forthcoming (24). The Neurosurgical Unit of the Tamale Teaching Hospital was the outlet for the selection of the sample. Fliers specifying the purpose of the study were given to participants who were discharged or had reported to the Neurosurgical Unit for review by colleague nurses in the Unit. Participants who best met the inclusion criteria of having a chronic SCI, being eighteen years of age or over and ability to communicate in English or Dagbani (a local dialect) were contacted by the first author and the purpose of the study was explained to them. To achieve maximum variation with the sample of the study, the first author recruited information-rich participants with either paralytic or non-paralytic SCI who gave vivid account of their experiences with the health care system they were accessing.

Approval for the study was obtained from the Institutional Review Board (IRB) of the Noguchi Memorial Institute for Medical Research, University of Ghana, Legon, with IRB number 00001276 and the Research Unit of the Tamale Teaching Hospital (TTH/R&D/SR/16/190). In addition, the purpose, objectives and any potential benefits and risks for participating in the study were explained to participants in the local dialect (Dagbani) or English three days prior to data collection. This allowed participants enough time to consider their participation. Informed consent was obtained from each participant that met the inclusion criteria and agreed to take part in the study. Participants were also informed that they could decline to participate or withdraw from the study even after they had signed the consent form without any consequences. The permission to record the interviews was sought from each participant who agreed to participate in the study. Data from the study were kept under lock and in the first author's office and only the researchers had access to the data.

Following informed consent, interviews were conducted with the aid of an interview guide. The questions for the interview were developed based on the objectives of the study. Some of the questions that were asked during the interviews were: What are your experiences with the health care system since developing a SCI?; How would you describe to someone what it is like to be admitted at the hospital with a SCI?; If any, what are some of the factors/issues that made recovery/adjustment to the injury difficult for you while at the hospital?; If any, what are some of the factors that promoted your recovery and adjustment to the injury at the hospital? The interviews lasted for approximately 30 to 66 minutes and were audio-tape-recorded with permission from the participants. The interviews were conducted at the participants' preferred time and in a quiet room that ensured privacy. Field notes of all non-verbal communications were taken during the data collection process to ensure that every aspect of the data was captured which helped in the analysis.

Data were analysed concurrently with data collection using thematic analysis (25). The researchers analysed the data using the six stages of thematic analysis according to Braun and Clarke (25). These were: data familiarization, initial coding generation, search for themes based on initial coding, review of themes, theme definition and labelling and report writing respectively. At the end of each interview, the first author manually transcribed verbatim, the audio-tape recording of the interview. The transcribed data was checked for accuracy by reading over it and at the same time, listening to the audio-tape recordings. Each transcript was read and reread several times to gain a sense of the whole and to be familiarised with the content of the transcript. In addition, because of the deep involvement of the first researcher in the interviewing and transcriptions, the data were very familiar to him before the analysis stage of the research began. Subsequently, the texts in the transcripts that were relevant to the objectives of the study were identified. The relevant texts were highlighted on the

computer for easy identification during coding. While the transcripts were read, the first author searched for similar ideas, thoughts and words within the data and these made up the codes. Identified codes were written against the lines of the transcripts where the codes were found on the right margin of the transcripts. The initial codes were revised in the light of things that appeared later in the transcripts. Each transcript was handled in exactly the same manner, and new codes that emerged during the coding process were added until all the transcripts were coded. The next stage of the data analysis (theme development) involved more interpretation and inductive reasoning. The relationships between the codes were analysed by the authors and constructs which embraced a number of the initial codes were identified as themes and sub-themes. Throughout the analysis, the researchers moved backwards and forwards between the interview extracts and the codes as well as between the developing themes until the themes were well defined. The first author finally reached consensus with his colleague researchers on the definition of the final themes before the report was written.

The researchers employed a number of measures to ensure the validity of the findings of the study. To begin with, the researchers achieved transferability (26) in the study by giving a vivid description of the research setting and by employing a sample size large enough to yield data saturation. To achieve credibility of the data, the researchers purposefully recruited participants that met the inclusion criteria and who could provide in-depth information on their experiences with SCI. Again, the first author spent sufficient time in the field to gain a fuller and deeper understanding of participants' experiences. Credibility was further enhanced in the study through member-checking (24); Transcripts of the interview were subsequently taken back to the participants and explained to them in the local dialect for comments and verifications before conclusions were drawn from the data. In achieving dependability in the study, the researchers maintained an audit

trail by giving a transparent and in-depth description of the research design, background of participants and the methods used in collecting and analysing the data. The first author also engaged the services of his supervisors who were not involved in the data collection exercise to examine and make comments on the processes and findings of the study. The purpose of this was to evaluate the accuracy and assess whether or not the findings, interpretations and conclusions were actually supported by the data. To address any conflict of interest, the first author reflected on his own biases and prejudices and bracketed and controlled them before data was collected.

Results

The age range of participants was from 24 to 72 years with a mean of 50.5 years. Nine (69.2%) of the participants were males and four (30.8%) were females (Table 1).

Three (3) major themes that emerged from the analysis of the data of the present study were; "Treatment and Management Issues" with long-term analgesic use, surgery, physiotherapy, herbal treatment and high cost of treatment as the sub-themes; "Health Education Issues" with lack of health education and proper health education as the sub-themes; and "Health Staff Issues" respectively.

Table 1. Demographic Characteristics

Demographic Characteristic	N (%)
Age	
< 40 years old	4 (30.8%)
≥ 40 years old	9 (69.2%)
Mean±std	50.5±3.5
Sex	
Male	9 (69.2)
Female	4 (30.8%)
Religion	
Muslim	11 (84.6%)
Christian	2 (15.4%)
Marital status	
Married	10 (77%)
Single	3 (23%)
Level of Education	
Educated	8 (61.5%)
No Formal Education	5 (38.5%)
Duration of Injury	
< 2 years	3 (23%)
≥ 2 years	10 (77%)

Treatment and Management Issues

The participants shared their experiences on the various treatment regimens they went through and the impact of these treatment regimens on their recovery and adjustment to SCI. The majority of the participants identified long-term analgesic medication use, surgery and physiotherapy as the main orthodox treatments they received. Some of the participants also went for herbal treatment in addition to the orthodox treatment they received.

Nearly all the participants in the study reported long-term intake of analgesics in the management of their post-injury pain. Most of the participants were still on the pain medications at the time of the study. The analgesics participants took varied from non-steroidal anti-inflammatory drugs to narcotic analgesics. Surprisingly, the majority of participants in the study identified the long term analgesics use as a barrier to their recovery despite the purpose for which they were prescribed at the hospital. The participants reported that, besides the side effects they suffered for taking these medications, the medications were ineffective and could not help alleviate the severity of their pain. This assertion is supported by the following quotations from a section of the participants:

“I was given pain medications but that couldn’t stop the pain. I was on those strong pain killers for long, until I was advised to put a hold on them because of the fear that if I should continue, a time would come when painkillers would no longer work for me. So I stopped taking the pain killers and since then I have never taken some because already they were not working for me”. (Alhassan)

Another participant lamented her ordeal:

“I was put on medications for so long. It started with the highest of painkillers and finally got back to the lower ones and I

eventually developed ulcer out of that. You know some of these pain killers like aspirin, when you take them for so long you would finally get ulcer as a side effect. So that is why I am thinking that my ulcer could be as a result of the long term intake of painkillers because I did not have ulcer before”. (Pumaaya)

She continued to say: *“Also, I was always sleeping anytime I took those drugs. That even made me to insist on going home against medical advice because I was only on painkillers which was not working and besides, I could take them in the house and just sleep at the comfort of my home.”* (Pumaaya)

Data from the study also revealed that the majority of participants involved in the study underwent spinal surgery as part of the management of their condition. Spinal surgery emerged as both a facilitator and barrier to participants in their adjustment to the ramifications of the injury. A few of the participants had multiple surgical operations as a result of multiple injuries sustained, or as a result of a relapse. The majority of participants who had the surgical operation reported a positive impact of the surgery on their recovery. One of the participants shared her experience:

“.....very! After the operation, I was much okay. So I thought life was just going to continue to be that hard until I had the operation. I had the operation on Monday and on Tuesday night the next week, I was discharged home because I could walk after lying for some few days.” (Mariam)

A few other participants (2) however reported deterioration in their condition following surgery. This is manifested in the quotations below:

“I did surgery. It was even after the surgery that the condition got worse. The pain was better but got worse after the surgery. I was put on pain killers and after sometime I could not even straighten myself again.

I could no longer assume any position in my sleep except lying on my side. All these came after the surgery". (Wumbei)

He continued to say: *"Ah! But if you are undergoing surgery hoping things would get better and after the surgery, you start to get some new signs and symptoms you did not know about, you surely would think it is as a result of the surgery". (Wumbei)*

Physiotherapy was yet another treatment regimen that all the participants of the study reportedly underwent. Unlike other therapies reported above, physiotherapy emerged as a facilitator in our study as nearly all the participants reported of a positive impact of the physiotherapy on the improvement of their condition. One of the participants had this to say:

"In fact I started the physio right from the ward. I started physio 2 to 3 days after the first surgery. I had two surgeries. So I started physio after 3 days after the first surgery. It was mild physio where they were trying to bend my limbs and all that. Later we moved on to riding of the bicycle." (Peter)

He continued to say:

I would say the physio really helped because even after the surgery, I still couldn't walk until I started the exercises with them. (Peter)

Another participant shared his experience:

"In fact, I couldn't walk after the operation, so the physiotherapy people were those who got me out of bed and started teaching me how to walk again." (Sala)

Besides the orthodox treatments discussed above, some of the participants reported using herbal treatment in addition to the orthodox treatment in the management of their injury. Some of these participants were convinced by family members to choose herbal treatment over the orthodox medicine while others resorted to the herbal treatment due to financial constraints, after exhausting their income in seeking orthodox medicine at the hospital. The participants who first chose

herbal treatment over orthodox care reported that, they had to report to the hospital for medical treatment after the herbal treatment failed to yield positive results in improving their condition. This is supported by the quotations from the participants below:

"When I was told I had to undergo an operation because I had SCI at the hospital, I came and shared the news at home and I was advised not to go for the surgery but rather go for herbal treatment. They were showing me examples of people who went through the operation and couldn't walk again, but when they went for the herbal treatment, they recovered. So for over a year I was treating the condition with the herbal treatment until it was not giving results because, I realized the condition was deteriorating. That was why I had to stop with the herbal treatment and reported back to the hospital". (Mariam)

Another participant had this to share:

"I remember when I was to undergo the surgery, some family members including my sisters came trying to convince me not to undergo the operation. They said the condition was spiritual and insisted I went for herbal treatment. So, they were coming every now and then with herbs from traditional healers. So many of them I cannot even count. Some of them are still in my room yet to be discarded. But when I realized the herbs were not yielding results, I became desperate for recovery and was ready to undergo anything to recover. And I think that was why I went in for the surgery". (Sule)

In addition to the failure of the herbal treatment in improving their condition, a few of the participants also reported on the side effects of the herbal treatment. One of the participants echoed:

"With the herbal treatment, whenever I bath the herbs, I would feel weak and the whole of that day I would not be myself and wouldn't be able to do anything. I complained

this to the traditional healer and he said it is a positive sign of healing yet I did not see any improvement”. (Adams)

In addition to the above, all the participants in the study verbalized that the treatment of their injuries came with a huge financial burden. The participants narrated that, every aspect of treatment of the condition was expensive, from diagnostic investigations to cost of medications. Some of the participants had to rely on family members and bank loans to be able to pay for the cost of treatment while others exhausted their life time savings and business capitals in treating the injury. A few other participants had to opt for the less expensive and less effective herbal treatment over the orthodox treatment because of the high cost of treatment of the injury at the hospital. One of the participants shared her experiences:

“The condition has really affected me especially the treatment cost. Before I went for the surgery I was building a house. It was at the roofing stage and it’s still at that stage because the condition has consumed all the money. All that I saved to complete the project was channelled into the treatment. Yet it was not enough I had to go in for a salary loan from my bankers. Even as I speak, they still deduct the loan from my salary. So for the treatment, hm!, only God knows what goes into it”. (Mariam)

Health Staff Issues

The majority of the participants in our study were not satisfied with the care they received at the hospital. Some of the participants reported on the negative attitude of health staff during their period of admission at the hospital. The participants narrated that, they were left unattended to by the nurses at the time they needed the attention most. Others reported suffering some form of discrimination by the health staff in the ward. One of the participants narrated his ordeal:

“The nurses in the ward should try a little more to interact with patients. A lot of patients feel neglected in that ward because the nurses do not really give them much attention. Like when a patient is lying alone,

people don’t know what is going through the patient’s mind. So, sometimes, the nurse trying to engage the patient and trying to find out what is in the patient’s mind can help in the recovery. (Zack)

Another participant was of the view that, nurses in the hospital do not give patients on admission the needed attention they deserve. He said:

“I would say the nurses in that hospital are not sympathetic because I was brought into the emergency ward with an improvised neck collar from Damongo District hospital because the facility there had no neck collors. So, at the Teaching Hospital, the improvised neck collar was removed on arrival and I remained in that ward for the next two days and nobody cared to give me a neck collar. My brother was mad when he came and realized I was lying without a neck collar, considering the nature of my injury. So quickly, he had to rush and arrange one for me. So if you are on admission in that hospital and you don’t know any staff, then you are doomed.” (Alhassan)

Health Education Issues

According to the “Ghana Health Service Patients’ Charter”, the patient is entitled to full information on his/her condition and management and the possible risks involved except in emergency situations when the patient is unable to make a decision and the need for treatment is urgent. Yet, lack of health education emerged as a barrier to participants’ recovery in the present study. With the exception of two participants, the majority of participants in our study reported that, they were not given proper health education at the hospital to enable them understand the multifaceted nature of their condition. For these participants, the lack of proper health education adversely affected their recovery as their ignorance about the

condition led to the development of secondary conditions such as pressure ulcers. Some of the participants had to rely on personal experiences to be able to understand the dynamics of the condition. This is what a participant had to say:

“Well, to be frank, I wasn’t educated on the injury at the hospital. Although my siblings were informed about the condition, but personally, I was not educated. But I realized there was something they were hiding from me. So, sometimes, I could call my siblings to ask them what the doctors were saying about my condition, to know whether I could walk again or not”. (Zack)

He attributed the pressure sores he developed at home to the insufficient pre-discharge health education at the hospital. He continued:

“.....and because we were not educated, my relatives didn’t know how to handle me at home. So, I was always lying on my back without frequent turning in bed, and this gave me pressure sores at my back. So I was sent back to the hospital for the wound to be healed because my surgical wound also got infected in the process. So if there was proper education, I don’t think it would have happened. So, I think there should be more education, counselling and more time for patients in the neuroward.” (Zack)

One of the participants also lamented on how he was denied the privilege of knowing the outcome of his imaging investigation. He echoed:

“..... after the injury the doctors and nurses did not tell me anything about the condition. Even when they took an X-ray of me and I asked to see it, they denied showing it to me, asking what I wanted to view it for. Meanwhile if someone is not well and you take an x-ray of that person to know what the problem is, in ideal situation you should show the picture to that person and explain things to him”. (Gariba)

A few of the participants who were educated on the condition verbalized that the health education they received actually helped

them in their recovery. One of such participants is Mariam. She narrated how an education on her condition actually assisted her in recovery:

“Later part of my stay in the ward, one of the nurses used to come and talk to me about the injury. She made me to understand that, the healing of my injury takes time and that I needed to be patient in the process. So I had some courage from that because, initially, I was making frantic efforts to get out of bed because I thought that was what I needed to do to recover. But when she cautioned that, I could injure myself further in the process and that I needed to be patient, I came to the realization that, it was really all about patience”. (Mariam)

Discussion

To the best of the authors’ knowledge, this is the first study that explored the barriers and facilitators related to the health care system in SCI in Ghana. According to the findings, the participants went through a myriad of treatment regimens both in the hospital and at home, in the management of their condition. These treatment regimens were long-term intake of analgesics, spinal surgeries, physiotherapy and herbal treatment. This finding is in line with previous literature on the treatment of SIC (24, 25, 26). Prolong use of analgesic medications was identified in the study as a barrier for functioning and participants’ adjustment to their injury. The majority of participants identified the inefficacy of pain medications and the enormous adverse effects of these medications as some of the factors that militated against their recovery. This finding is in line with the findings of Henwood et al. (30). According to Henwood et al. (30), persons with neuropathic SCI pain often engage in a cyclic process of starting and stopping prescribed medications in an effort to alleviate pain. The researchers further reported that, despite the frequent upward adjustment in pain medications, pain relief is always inadequate and the presence of unacceptable side effects from pain medications often lead to the decision to stop

the medication and proceed to the next available option (30). Again, spinal surgery emerged as both a facilitator and a barrier to participants of our study in their adjustment to the injury. Majority of the participants verbalized a significant improvement in their condition after the surgery. A few other participants, however, verbalized that, the spinal surgery they had undergone caused a deterioration in their physical health. In tandem with the above, studies in the past have also reported on the complications of spinal surgeries (28, 29). Rahimi-Movaghar (32) assessed the efficacy of surgical decompression among patients with complete thoracic SCI in Iran. The researcher concluded that, surgical decompression and fusion bring no benefit in terms of neurologic improvement in patients with complete traumatic thoracic SCI. In another related study, Moghimi and Reitman (31) reported that perioperative complications are frequent among persons with SCI and occur as a result of failure of the surgical operations. The first author as a former worker of the Neurosurgical Unit of the Tamale Teaching Hospital where the study was conducted has observed that, spinal surgeries in the Unit are often delayed for weeks, either as a result of lack of medical logistics or patients' inability to immediately afford the cost of the operation. This may account for the poor prognosis of spinal surgeries in the Unit. Future and subsequent comparative studies would help shed light on the differences in prognosis between early spinal surgeries and delayed spinal surgeries.

In addition to the above, another treatment regimen that came up strongly as a barrier to participants' recovery in our study, was herbal treatment. All the participants in the present study that went for herbal treatment reported that the herbal treatment adversely affected their recovery and adjustment to the injury. This finding however, is not in tandem with previous literature on the impact of herbal medicine in the treatment of SCI (26, 30, 31). In a systematic literature review, Zhang et al. (33) assessed the therapeutic effects of traditional

Chinese herbal medicine in the treatment of SCI. The study revealed that, Chinese herbs are beneficial in the treatment of SCI by providing antioxidant, anti-inflammatory, or neuroprotective properties. In another related study, Qun-li and Xiao-chun (29) concluded that, Chinese herbs have their own unique predominance in the promotion of peripheral nerve regeneration. Differences in the type of plant species used in herbal medicine between Ghana and China may account for the above differences in our findings and that of Zhang et al (29) and Qun-li and Xiao-chun (29). Again, China has made significant advancement in traditional medicine as compared to that of Ghana.

More so, the participants of the present study identified the high cost of medical care as another barrier for their adjustment to the injury. Some of the participants had to suspend physiotherapy and other orthodox treatments due to financial constraints. A few others abandoned the orthodox health care for herbal treatment because they could not afford the cost of treatment of the injury at the hospital. The high cost of treatment of SCI is well documented in previous literature (31, 32). Most medical conditions in Ghana are insured under the National Health Insurance Scheme, which was established under the National Health Insurance Act 2003, Act 650. SCI is, however, an exception as the condition is not covered by the National Health Insurance Scheme. This implies that, the heavy financial burden of treating a SCI in Ghana is left solely on the shoulders of the affected persons and their families. It is therefore not surprising that, the majority of participants in our study identified the high cost of medical care for their conditions as one of the factors that militated against their recovery and adjustment to the injury. Further, participants of this study expressed dissatisfaction with the care they received at the hospital. The majority of the participants reported negative attitude of health staff, discrimination and lack of patient involvement in decision making as some of the challenges they faced while on admission at the hospital. Meanwhile, Bailey et al. (36)

in their study asserted that greater patient participation and involvement in nursing activities is associated with better patient outcomes. This implies that, participants in our study were more likely to have responded poorly to the treatment they received at the hospital since they were not involved in taking decisions about their care. Again, negative attitudes by nurses and ill-treatment of persons with SCI have been reported in the literature (37).

Another major barrier to participants' functioning and recovery from a SCI in our study was lack of health education. According to Garrino et al. (38), receiving explicit health education about a disease condition is necessary for accepting the condition (38). However, with the exception of a few, the majority of participants in the present study were not educated on the nature of their condition while on admission at the hospital. These participants blamed the secondary conditions they developed on their ignorance about the management of the condition at home, as a result of the lack of health education at the hospital. This finding from our study is not in congruence with the findings of Sand et al. (5) explored the conceptions of SCI patients on hospital care and rehabilitation in Sweden; and contrary to the findings of our study, the majority of participants in that study reported that, they had received clear and relevant information about their condition from the hospital staff (5). Staff work overload due to inadequate staff strength at the research setting of the present study and poor working conditions for nurses in Ghana may have accounted for the differences in findings between the present study and that of Sand et al. (5).

The few of the participants that were given some form of health education in the present study however identified this as a facilitator to their recovery from their SCI. According to these participants, the health education they received assisted them to understand the "dos and don'ts" of the condition and that helped in their recovery. Previous research has identified health education as an important facilitator for

patients with SCI in their adjustment to the injury (5). Nurses in Ghana should inculcate the habit of educating patients and their families on admission; on their health conditions to enable them understand the nature of their conditions and to promote the continuity of care at home. It is clear from the above discussion that, besides a few health system related facilitators to functioning, persons with SCI are faced with a number of barriers related to the health care system, that adversely affect their functioning and recovery from the condition. Addressing these barriers and improving on the few existing facilitators to functioning would help improve the functioning and the general wellbeing of persons with SCI in Ghana. Future studies involving large and transcultural samples will shed more light on spinal surgery and herbal medicine as barriers/facilitators to the functioning of persons with SCI.

The only limitation of the study identified by the researchers was the representativeness of the sample. This is because, to ensure that rich and detailed data was obtained on participants' perceived barriers and facilitators related to the health care system, the researchers employed a purposive sampling technique by recruiting only participants who had a wealth of information to share on their experiences. As a result, the findings' replicability is limited to groups that share the same characteristics as the sample of this study.

Conflict of interest

The authors have no conflict of interest

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