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Abstract

Life satisfaction and self-efficacy are important aspects of stroke rehabilitation. Previous research focuses on Western stroke survivors, neglecting the stroke experience in the Middle East. This research was conducted in Kuwait, and entailed both quantitative and qualitative phases to obtain a more comprehensive, clinically relevant understanding of self-efficacy and life satisfaction during stroke rehabilitation in this culture. The aims were firstly to investigate relationships between self-efficacy and life satisfaction in female patients affected by stroke (Phase 1), and secondly, to explore health professionals' views regarding the importance of self-efficacy and possible strategies for enhancing self-efficacy during rehabilitation, through semi-structured interviews (Phase2). Significant correlations were found between patients' general self-efficacy, and psychosocial adaptation self-efficacy following stroke. Self-efficacy (both general and psychosocial adaptation) showed significant correlations with life satisfaction post-stroke. Health professionals (more than half of whom were physiotherapists) recognized the importance of self-efficacy within stroke rehabilitation and identified five main ways to increase self-efficacy during stroke rehabilitation. These were to: motivate and encourage patients, provide more education about stroke and rehabilitation, identify change, offer a high quality environment and therapy, and set goals. In conclusion, psychosocial self-efficacy was identified as having a stronger relationship to life

satisfaction compared with general self-efficacy within this sample of Kuwaiti female patients. Health professionals suggested various strategies for enhancing self-efficacy and thereby life satisfaction post-stroke during the rehabilitation process in Kuwait. Despite the collectivist culture of Kuwait, the findings indicate that patient's own confidence and sense of responsibility for progress may be relevant to rehabilitation.

Introduction

Stroke is a major cause of disability, and dependency in most parts of the world. The effect of stroke on participation and overall life satisfaction is an issue that is being increasingly considered by physiotherapists, reflecting awareness of the importance of psychosocial variables within rehabilitation (Barron, Klaber Moffat and Potter, 2007). It is assumed that the physiological causes and sequelae of stroke are similar with patients all over the world. However, the way that patients interpret their disability and appraise life post-stroke may be influenced by their individual culture. Therapists involved in rehabilitation, such as physiotherapists, need to be aware of possible cultural variations in order to provide culturally competent care, which invites cooperation with patients and their family members, and ensures the best possible outcome is obtained. Knowledge about patients' beliefs is considered a vital aspect of a biopsychosocial approach (Bhui, King, Dein, and O'Connor, 2008). Culture influences perceptions of symptoms, meanings of health, the experience of personal control, attitudes towards disability, and coping strategies (Gallaher and Hough, 2001; Snead and Davis, 2002; Skaff and Gardiner, 2003). In illustration, Saltapidas and Ponsford (2008) found that patients with traumatic brain injury (TBI) from minority group

backgrounds in Australia scored lower in internal locus of control (LOC) than patients from the dominant English-speaking culture. This may reflect Western values that emphasise autonomy and self-responsibility, whilst in some non-Western cultures, LOC is more externalized, and the ill person is more likely to be viewed as dependent on the family and not responsible for self-managing the condition (Stanhope, 2002; Dalvandi et al, 2010).

Current relocation of people across the globe has increased the number of multi-cultural communities. This means that physiotherapists and other health professionals need a better understanding of the influences of culture on the stroke experience and rehabilitation process (Norris and Allotey, 2008). Research specifically targeting peoples of Arabian culture is limited, and neurorehabilitation studies which include considerations of culture are strikingly rare within the stroke literature.

Life satisfaction and self-efficacy during rehabilitation are two specific psychosocial variables that are influenced by cultural and religious beliefs as identified by results from other studies outside the field of stroke (Hampton and Marshall, 2000; Saltapidas and Ponsford, 2007). Most of the available evidence about people's experience of stroke and stroke rehabilitation has been gained in Western countries, with predominantly Christian or secular belief systems. Stroke experience and attitudes to recovery in the Arab culture have received very limited previous research, and yet are important for physiotherapists to understand in order to provide culturally sensitive interventions.

This article describes a two phase study, investigating self-efficacy and life satisfaction in patients affected by a first stroke living in Kuwait, both from the view of patients and also the health professionals involved in their rehabilitation. Both quantitative and qualitative research methods, with data collected from both patients and health professionals was deemed as vital to provide an in-depth and clinically relevant enquiry in investigating self- efficacy and life satisfaction during rehabilitation within this particular culture. According to Patton (2002), the use of different methods in research is advantageous because quantitative and qualitative methods have different strengths and weaknesses, and together give rise to “ in-depth, nuanced or complex knowledge” (Depoy and Gitlin, 2005: 28). Whilst many mixed method studies have patients participating in both quantitative and qualitative phases, a common primary purpose of a qualitative phase is to provide explanation and illumination of quantitative findings (Carr, 2009). In the current case, health professionals offered understandings that complemented the quantitative findings from patients, and increased their clinical relevance for the Kuwaiti context.

Life satisfaction has been defined as: “a contentment with or acceptance of one’s life circumstances or the fulfilment of one’s wants and needs for one’s life as a whole” (Sousa and Lyubomirsky, 2001: 667). Robinson-Smith (1993) describes life satisfaction as an evaluation of how fulfilling life is in general. It can also be known as adjustment, life quality and morale. Life satisfaction has been referred to being the same as ‘quality of life’ by some authors (Sousa and Lyubomirsky, 2001; King, 1995). However, Tate and Forchheimer (2002) view quality of life (QOL) as a wider concept in which life

satisfaction and subjective well-being are components, stating: “In general, subjective definitions of QOL include the following concepts: well-being, life satisfaction, morale, and happiness” (Tate and Forchheimer, 2002: 401).

Perceptions of life satisfaction among patients living with neurological conditions appear to vary with cultural background. For example, life satisfaction was reported as higher among American patients with spinal cord injury, compared with Chinese patients (in China), although in both groups, life satisfaction related to self-efficacy (Hampton and Marshall, 2000). The life satisfaction of stroke survivors in Iran has been described as poor, due to expensive, inaccessible rehabilitation services, lack of community facilities, changes in family dynamics, loss of autonomy and other factors (Dalvandi et al 2010). In general, a wide range of further variables have been associated with life satisfaction post-stroke. These include social support and social network (Osberg et al, 1988; Åström, Asplund, Åström, 1992; Nagayoshi, Iwata and Hachisuka, 2008), mental and physical disabilities (Osberg et al, 1988; Viitanen, Fugl-Meyer, Bernspang, and Fugl-Meyer, 1988; Åström, Asplund, Åström, 1992; Gottlieb, Golander, Bar-Tal and Gottlieb, 2001; Ostir et al, 2008), depression (Åström, Adolfsson, Asplund, and Åström, 1992; Lofgren, Gustafson and Nyberg, 1999; Edwards, Hahn, Baun, and Dromerick, 2006), meaningful lifestyles/leisure activities (Sveen et al, 2004; Edwards, Hahn, Baun, and Dromerick, 2006; Ekstam, Uppgard, Von and Tham, 2007; Hartman-Maeir et al, 2007a, 2007b), and return to work (Vestling, Tufvesson, and Iwarsson, 2003; Vestling, Ramel, and Iwarsson, 2005). Although there have been four studies, in Israel, Japan, and Iran (Hartman-Maeir et al, 2007a, 2007b; Nagayoshi, Iwata and Hachisuka, 2008; Dalvandi

et al 2010), life satisfaction after stroke has been studied primarily within Western countries. Relationships between life satisfaction and self-efficacy after stroke amongst Muslim stroke survivors in Kuwait have not been investigated previously. It is uncertain whether these constructs, which are meaningful in individualized Western cultures, are as relevant within more collectivist Arabic cultures (Dean, Mahomed, and Maulana, 2006). These are important issues to establish in order to promote effective, culturally sensitive rehabilitation.

“Self-efficacy” has been defined as “people’s beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives” (Bandura, 1994:71). This term was first used by Bandura in 1977 to describe self-assurance in one’s capability to accomplish certain tasks. Self-efficacy beliefs are the core determinants of human behaviour according to Bandura’s social cognitive theory. Bandura in the 1960’s challenged prevailing theory by explaining human behaviour as a result of interactions between the environment, biological make-up of the individual, and self-reflecting processes (Bandura, 1977) This theory was initially known as social learning theory, and did not yet contain the term “self-efficacy”. In 1977, Bandura added a key element to his social learning theory: “self-efficacy”. This was described as self-belief in one’s capabilities to perform a specific action to achieve a specific goal. With this addition, the theory was changed from “Social learning theory” to “Social cognitive theory” to highlight the role that cognition plays in determining human behaviour. The social cognitive theory of Bandura thus explains behaviour as a result of self-

organising, self- reflecting processes and not solely by reaction to environmental factors or responses to internal impulses.

Locus of Control (LOC) is a construct often confused with self-efficacy (Abusabha and Achterberg, 1997). It refers to what an individual believes regarding the source of reward or reinforcement from a specific behaviour (Ai et al, 2005). Norman and Bennett (1996) described locus of control as a subjective view held regarding the relationship between one's individual behaviour and the result of that behaviour. Origins of locus of control can be found in Rotter's social learning theory in which behaviour is identified as dependent on the type, amount and value of reward or reinforcement derived from engaging in that behaviour (Rotter, 1954). Self-efficacy and locus of control have been defined in the literature as two independent yet overlapping constructs (Shelley and Pakenham, 2004; Wu, Tang and Kwok, 2004). To summarise, self-efficacy can be viewed as the sense of confidence in one's ability to accomplish a particular goal. Locus of control refers to beliefs regarding whether this control /ability comes from the self (internal LOC) or others (external LOC).

There is some evidence suggesting a positive association between life satisfaction and self -efficacy (Smith, Magill-Evans, and Brintnell, 1998; Hampton and Marshall, 2000; Cicerone and Azulay, 2007). However, this relationship has not been directly investigated in patients affected by stroke (although as noted below, quality of life has been linked with self-efficacy). Neither has it been explored in cultures beyond the West. It is important for physiotherapists to understand about self-efficacy in

rehabilitation because, according to Bandura (1994), self-efficacy beliefs profoundly affect feelings, thoughts, motivations and behaviours. These beliefs are said to affect the choices that people make in different situations, the effort and time taken to persist with maximum effort, how obstacles are tackled, and the overall subjective well-being of the individual. Whether these relationships hold in highly collectivist cultures, such as Kuwait, deserves enquiry.

Self-efficacy and locus of control during stroke rehabilitation have been investigated by other researchers (Bonetti and Johnston, 2008; LeBrasseur et al, 2006; Robinson-Smith, Johnston and Allen, 2000; Partridge and Johnson, 1989). These research studies suggest that self-efficacy could be related to functional outcome and quality of life post-stroke. A recent systematic review on self-efficacy in stroke rehabilitation indicated that self-efficacy is associated with quality of life, ADL, physical functioning, and lower depression post-stroke (Jones and Riazi, 2011). Robinson–Smith, et al (2000) indicate the importance of self-care self-efficacy during rehabilitation and its association with lower levels of depression and better quality of life post-stroke. LeBrasseur et al (2006) also reported similar findings regarding the association between self-efficacy and quality of life. Partridge and Johnston (1989) reported the importance of internal locus of control during rehabilitation and advocated fostering patients' internal beliefs and reducing dependence on therapists. They demonstrated the predictive role of recovery locus of control in patients affected by stroke. Participants with higher internal locus of control showed faster recovery. One might speculate that self-efficacy might have a similar predictive role in stroke rehabilitation. Further research investigating self-efficacy

specifically is required. Bonetti and Johnston (2008) did not find an association between locus of control and recovery of walking, although self efficacy and perceived behavioural control predicted recovery.

It is possible that locus of control and self-efficacy are culturally sensitive constructs, reflecting Western individualised values. Certain religious and cultural beliefs may foster assumptions about the desirability of external control and reduce the relevance of self-efficacy, potentially having implications for patients' adaptation and recovery, and also culturally sensitive physiotherapy practice.

Aims

The aims of this study were firstly to investigate quantitative relationships between self-efficacy, and life satisfaction in female patients affected by a first stroke living in Kuwait, and secondly to explore the views of health professionals regarding effective strategies for enhancing the self-efficacy of patients (of both sexes) engaging in stroke rehabilitation in Kuwait. In Phase 1, females were selected as limited evidence suggests that stroke experiences differ between male and female survivors (Murray and Harrison 2004). In addition, perceptions of health vary differ substantially between males and females in Arabian cultures reflecting gender roles and resources (Asfar et al, 2007) with potential consequences for life satisfaction post-stroke. There were pragmatic reasons also for focusing upon female stroke patients, as culturally it was more acceptable for a female interviewer to approach female patients and rehabilitation is gender segregated in Kuwait. Phase 2 involved reporting the findings of phase 1 to

health professionals and then eliciting their views about how best to promote the self-efficacy of patients (of both genders) affected by stroke in Kuwait, in order to enhance the clinical application of the findings of Phase one.

Methods

This study had both a quantitative and a qualitative phase to obtain a more comprehensive and clinically relevant understanding of self-efficacy and life satisfaction during stroke rehabilitation in Kuwait.

Phase 1

Design: A cross-sectional study design was carried out to investigate relationships between self-efficacy and life satisfaction, using rating scales. A total of 40 female patients participated, with a confirmed first stroke. They were recruited from both the inpatients' facility and the out-patient physiotherapy department at a large Rehabilitation Hospital in Kuwait, by the first author (a physiotherapist who was not working in a clinical role at this site). This hospital was selected as it offered stroke rehabilitation to substantial numbers of patients and as the management was willing to support the research.

Inclusion criteria: female patients with a first-time stroke attending either in-patient or outpatient physiotherapy, diagnosed with a cerebrovascular accident or stroke on CT scan, with cognitive functioning and speech adequate for participation. All ages above 18 years old were eligible.

Exclusion criteria: Patients unable to give consent due to cognitive deficits, patients with expressive and receptive aphasia following stroke, patients with other neurological conditions e.g. multiple sclerosis, Parkinson disease, peripheral neuropathy and patients with previous documented psychiatric history.

Recruitment Strategy: Permission was sought from management on receipt of university ethical approval to conduct this phase of the study. All procedures required to ensure safe working on the hospital site prior to commencing the study were strictly followed. Patients were approached before or after their physiotherapy session in the waiting room by the main researcher to seek their consent to participate in this study. Information sheets about the study were provided (translated into Arabic where necessary) and individuals were allowed to take information sheets away to discuss with relatives or spouses prior to consent being given. Participants were given up to one week to decide if they wished to participate in the study. Participants were informed about their right not to consent or to withdraw and that their rehabilitation would not be affected by their decision to participate or withdrawal from the study. Translation of information sheets and consent forms was carried out by an official translation company experienced in translation of academic and medical documents. Signed consent was obtained prior to conducting interviews.

Questionnaire administration via interviews: Participants were interviewed by the first researcher and a translator (this was a neutral person, neither a relative nor their own physiotherapist) in a quiet room within the physiotherapy department where the patient

was being treated. Despite having the questionnaires in Arabic, it was found that the translator was at times required to re-read questions for the participants and to clarify the meanings of questions. Some participants required scenarios and explanation of how to rate their beliefs and life satisfaction on a scale of 1-10. Clearly this introduced some variability in administration but was necessary in order for patients to understand the questions and also followed social norms of interaction operating in this culture. This issue is revisited in the Discussion.

Measures: The following scales were administered:

i) The Psychosocial Adaptation Self-efficacy Scale (PSE) was adapted by the authors from the Chronic Disease Self-efficacy Scales (CDSES), developed by Lorig et al. (1996). The original is a collection of 3 scales: Self-Efficacy to Perform Self-Management Behaviours, General Self-Efficacy, and Self-Efficacy to Achieve Outcomes Scales. These original scales were developed at the Stanford Patient Education Research Center. Internal consistency of the various original subscales was high, and ranged between 0.77 and 0.92; test retest reliability of the various subscales ranged between 0.72 and 0.88 (Lorig et al, 1996).

The Psychosocial Adaptation Self-efficacy scale (see Appendix 1) was developed for this project from an earlier set of interviews with stroke survivors living in Kuwait conducted by the first author, and the themes were then used to identify relevant items from the Chronic Disease Self-efficacy Scales (CDSES). A group of health professionals was asked to assess the relevance (face validity) of the adapted questionnaire items. Participants were 11 physiotherapists working at a rehabilitation

facility in Kuwait. All but three items in the initially designed questionnaire were thought to be relevant. Based on this feedback, 3 items were removed from the initial questionnaire, helping to reduce repetition of items and enhancing their cultural acceptability.

An exploratory pilot/validation study was then carried out. The adapted Psychosocial Adaptation Self-Efficacy scale (PSE) scale was administered to 10 patients via interview to compare its results with the Generalized Self-Efficacy scale (GSE) which is a validated, reliable measure of self-efficacy. Analysis of the correlation between the total GSE and PSE scores of all 10 participants with the use of Spearman's Correlation showed that these two scores were positively correlated ($p < 0.05$), thus offering some criterion validity to the adapted PSE Scale. Test-retest reliability was assessed by presenting the adapted PSE scale to a group of eight participants on two occasions (two of the original 10 participants did not return questionnaires at Time 2, thereby leaving a sample size of 8). The time between test and retest varied within this sample (between 1 and 7 days). The reliability of the scale was shown (Spearman's $\rho = 0.84$; $p = 0.009$).

The final version of this adapted scale is made up of 8 items regarding psychosocial self-efficacy on which participants have to rate their level of confidence (see Appendix 1). For example: "how confident are you that you can deal with the frustration of your disability /disease?" Level of confidence is then rated on a scale of 1 (Not at all confident) to 10 (Totally confident). The total score from the 8 items represents the participants' psychosocial adaptation self-efficacy. Cronbach's alpha was acceptably high, indicating internal coherence (Cronbach's $\alpha = 0.78$).

ii) *The Generalised Self-Efficacy Scale* (Schwarzer and Jerusalem, 1995). Participants completed a 10-item questionnaire that assesses self-efficacy beliefs and the ability to cope with different stressful situations in life. Reliability and validity are acceptable (Schwarzer and Jerusalem, 1995; Schwarzer, Mueller, and Greenglass, 1999; Leganger, Kraft, and Røysamb, 2000).

iii) *Single item life satisfaction measure*. Participants were asked to provide a self-rating from 1-10, to reflect how satisfied they felt with life at the moment. ("1" denoted "not satisfied at all" and "10" denoted "very satisfied"). Other studies have used a single measure such as this in assessing life satisfaction post-stroke (e.g. Osberg et al, 1988; Ekstam, Uppgard, Von and Tham, 2007).

Other information collection included: time since stroke, nationality, type of stroke.

Data Analysis:

The SPSS version 12 was used to provide descriptive statistics and correlations. The internal consistency of each instrument was examined using Cronbach's alpha.

Spearman's correlations were used to evaluate the association between self-efficacy, and life satisfaction.

Phase 2

The aim of phase 2 was to explore the health professionals' understanding of the relevance of self-efficacy in stroke rehabilitation and to describe any strategies they

used for enhancing the self-efficacy of patients in stroke rehabilitation in Kuwait. The intention was to enhance the clinical application of the results of Phase one of this study.

Design: A qualitative method was used as health professionals' own accounts and reflections were needed. Semi-structured interviews were carried out with 12 health professionals with current/ recent stroke rehabilitation experience in Kuwait. The first author and interviewer is a female physiotherapist who has been working in stroke rehabilitation in Kuwait.

Recruitment:

Following university ethical approval, and management permission, local health professionals working at a rehabilitation centre were informed about the study verbally, and then given full written information (including main interview questions) if interested in participating. The rehabilitation centre was not the first author's current place of work or the same facility as patients participating in phase one of this study. This facility was chosen because access was given and the management was supportive of research. Choice was limited as there are few adult rehabilitation facilities in Kuwait with multidisciplinary teams. Participants for the first phase of this study were recruited from one facility and participants for the second phase from a different one. A few participants were also recruited by the method of snowballing, a strategy considered adequate when there is no clear sampling route (Mason, 2002). All participants gave

written consent. Seven physiotherapists were interviewed, and also three nurses, a speech and language therapist and an occupational therapist.

Interviews:

The interviews took place in a quiet room at the rehabilitation centre or at a suitable alternative location. Interviews were conducted in English, audio-recorded, and took 45 minutes to one hour. All participants were informed of the aims of the study, and were assured of confidentiality and their right to withdraw at any time. The interviews started with a description of the findings from Phase 1. Participants were asked to comment on any clinical implications, and strategies for enhancing self-efficacy in the Kuwaiti context were elicited. Key questions were:-

1. My study showed that self-efficacy was a significant contributor to life satisfaction of female patients after stroke - how do you understand this relationship?
2. How can this finding be applied clinically in the Kuwaiti context?
3. How may stroke patients' self-efficacy be enhanced?

Bias was minimized by asking open questions, and through use of active listening skills (which involved summarising participants' key points from time to time in the interview to enable confirmation that their views were being understood accurately). Although participants were informed about the findings from phase 1, there was no expectation or requirement imposed within the interview that they should find the statistical association to be meaningful.

Data analysis:

Full transcription of interview tapes were carried out by a transcription company with checking carried out by the first author. Verbatim transcription was conducted without paralinguistic information such as intonation or pausing. The following 6 phases of thematic analysis as explained by Braun and Clarke (2006) were carried out, namely familiarization with the data, generation of initial codes, searching for themes, reviewing themes, defining and naming themes, and writing up the report.

Enhancing rigour:

In qualitative research, a number of strategies are recognized as helping to minimize bias and increase trustworthiness of findings, and these were implemented. These include being alert to prior knowledge and preconceptions through reflexive self-monitoring, maintaining an audit trail of the decisions taken during data analysis, and peer examination of the data analysis process (Krefting, 1991; Creswell & Miller, 2000).

Results

Phase 1: The sample consisted of 40 female patients with an average age of 55 years (SD 10; range 33-73 years). Stroke had been diagnosed a median of 10 months previously (range 1-132 months; 50% of the sample reported a stroke 2.75-34.5 months previously). Of the 40 participants, 33 (82.5%) had a stroke due to an infarct while the other 7 (17.5%) had a hemorrhagic stroke. Twenty three (57.5%) of the 40 participants had a left sided weakness and 17 (42.5%) had a right sided weakness. All participants were 'first time' stroke survivors. Thirty six (90%) of the study sample were of the Muslim faith and 4 (10%) were Christians. Kuwaitis made up 55 % of the study sample

(22 participants) and Non-Kuwaitis made up the remaining 45% (18 participants). The Non-Kuwaitis were of the following nationalities: Indian, Lebanese, Filipino, Iraqi, Egyptian, Bangladeshi, Bedouin, Ethiopian, Sudanese, Iranian, and Saudi Arabian. Given the high numbers of ex-patriate workers in Kuwait, this proportion was expected.

Participants' General Self-efficacy (GSE) scores ranged from 10-40. The lowest score possible on this scale is 10 and 40 is the maximum score possible. A higher score denotes a higher general self-efficacy. Mean GSE was 31.65 (SD 7.5). The Psychosocial Adaptation Self-Efficacy (PSE) scale has a minimum score of 8 and a maximum of 80. Higher scores indicate higher self-efficacy. Participants' mean score was 64.07 (SD 15.75; range 27-80); scores showed a large positive skew towards the higher end of the scale. The sample as a whole scored above the mid-point on the 10-point life satisfaction scale (mean 6.73; SD 2.80; range 1-10), although the distribution of scores was bimodal, with peaks at ratings of 5 and 10 on the 10-point scale.

The Generalised Self-efficacy score (GSE) was significantly positively correlated with the Psychosocial Adaptation Self-efficacy score (PSE), Spearman's $\rho=0.62$ ($p<0.001$). This indicates a high correlation and offers some validation of the PSE Score developed specifically for the patients affected by stroke living in Kuwait. The Generalised Self-efficacy score (GSE) was significantly positively correlated with the Life Satisfaction single measure, Spearman's $\rho= 0.44$ ($p<0.001$). The Psychosocial Adaptation Self-efficacy score (PSE) correlated significantly with the life satisfaction measure,

Spearman's rho= 0.61 ($p < 0.001$), and indeed showed a greater relationship with life satisfaction than the Generalised Self-Efficacy measure.

Phase 2

Insert Table 1.....

Therapists represented a range of cultural backgrounds, as is common in Kuwaiti health services. Pseudonyms are used throughout. In suggesting strategies for enhancing self-efficacy of stroke survivors in the Kuwaiti context, five main themes were discussed. These themes were: motivate and encourage patients, provide more education, identify and demonstrate change, provide a high quality environment and therapy, and set goals. Other suggestions (offered by a few participants) were to provide examples of successful rehabilitation patients, acknowledge individual differences, and provide incentives.

1) Motivate and Encourage Patients

Motivating and encouraging patients were the most mentioned strategies (by 8 /12 participants) to increase self-efficacy and life satisfaction.

“Okay, in the clinical practice I think the first thing we need to do is we need to motivate the patient ...that they need to have a strong belief that they can do it ... maybe not at the maximum level, but not at the minimum level. At least they will recover something” (Helen, Malaysian nurse).

“With these patients ...we have to give them a lot of encouragement”

(Mohammed, Kuwaiti physiotherapist).

Motivating patients aimed not only to give confidence in their ability to improve but also to participate fully in the therapy or treatment being offered. The need to avoid any expressions of negativity or pessimism was highlighted by some therapists:

“We should not express negativity to this patient, we should be always positive in dealing with them that ‘you can do, you can do it,’ ‘you have experience’ plus explanation” (Aylne, Philippino nurse).

Views regarding motivation and encouragement of patients to enhance self-efficacy were widely shared and did not seem to relate to the health professionals’ cultural or professional background.

2) Offer Patient Education

Improving patients’ knowledge of stroke and rehabilitation through offering resources, and education was a strategy suggested by seven of the twelve health professionals. However, there was some awareness that educational strategies are not straightforward to deliver in the Kuwaiti culture:

“A couple of things that come to mind, perhaps if you see a need, offering resources to patients if you feel that they need psychological health, I think it’s appropriate for therapist to offer resources and again I think education, to the extent that the individual therapist is able to educate their patient is important, as I mentioned to help them become more self aware, but again this is going to vary

on the ability of some therapists because this is not traditional what we are educating” (Katie, American occupational therapist)

Education strategies included talks about the importance of motivation and self-efficacy for recovery, and the patients’ active role in rehabilitation. Several health professionals understood that they needed to take a proactive role in offering education and educational resources to patients and their families, as understanding about stroke and rehabilitation is generally poor in Kuwaiti society. It was hoped that education would ultimately enhance the stroke patients’ self-efficacy and committed engagement in rehabilitation.

3) Identify and Demonstrate Change in Functioning

Half of sample (6 of the 12 participants) interviewed expressed the belief that self-efficacy and life satisfaction can both be enhanced by identifying and demonstrating improvements in functioning to patients.

“Yeah, by showing them their good results, discuss their improvements and if they are not improving, we can use other techniques [to] probably reinforce them” (Ahmed, Kuwaiti speech and language therapist).

The quotation above also pointed out the need to identify alternate ways to increase self-efficacy and satisfaction in situations whereby observable signs of improvement are not present. Therapists pointed out the need for some objective measurement, especially for patients who are more extrinsically motivated:

“I might use goniometric measurement to show change and write it down and bring it up in front of them every time and say last week you were 35 degrees of elbow flexion and this week you are 50 and this week to 55. At last you have made a whole 5 degrees... The person that’s intrinsically motivated would probably not need to do that, I would just have to show them once that they felt a little different and for them it might be that I point out, you know, you notice you are touching your head now when you reach up, and when they realize that that’s all they would need, and it would be more important to them than me cheering them on with the goniometer” (Matt, Canadian physiotherapist).

Several participants pointed out that patients themselves do not always see the small gains they make in rehabilitation and require their therapist to point these out and celebrate them.

“We have to show them that they are succeeding because, you know, sometimes with these cases we are not seeing big changes in a short period of time, but we can see small changes. Can we make our patients see these small changes that they are really improving? Yesterday, you were not lifting your ankle, you were not able dorsiflex, but today there is some flicker, there is improvement... Now we can work on this, yes, this is something, we have achieved it...” (Mohammed, Kuwaiti physiotherapist).

Identifying change was expressed as a vital aspect of enhancing self-efficacy and increasing life satisfaction. In situations where change is not measurable, the need to

identify another means to reinforce self-efficacy is required. The possibility of negative changes leading to loss of self-efficacy during rehabilitation was not mentioned by the health professionals interviewed. The health professionals' statements clearly indicated that identifying change was within their control, and that this could then be used to facilitate increasing self-efficacy of the stroke survivor. The six health professionals who described this strategy included both Kuwaitis and non-Kuwaitis, and from various disciplines.

4) Offer a High Quality Environment and Therapy

Five of the twelve health professionals from diverse cultures identified that the setting of rehabilitation and the quality of therapy helped in increasing self-efficacy and satisfaction.

“..and we should also show that we have the facilities, “We will help you with this. If you need this we will do this”. So I think the whole package ... have a good rehabilitation centre with all the exercise programmes and all these things, that's what helps them to recover” (Helen, Malaysian nurse)

“The other thing is to let her environment boost her, help her more not just from herself but with the others, this will increase her power to work harder and give more” (Khadeja, Kuwaiti physiotherapist)

Both the physical and social environment of rehabilitation were regarded as enhancing the self-efficacy of patients with stroke. Patients seeing appropriate equipment were thought to feel they are receiving the best care and this could increase their self-

efficacy. Khadeja also mentioned the social environment and the possible effect of other stroke survivors on a patient's self-efficacy.

5) Set Goals

Working towards a set goal was expressed as important in increasing self-efficacy and associated life satisfaction by five of the twelve health professionals.

“First, to find out what their goal is and if they have a goal or if they don't, then you might want to show them what can be a goal, not to tell them that should be your goal ...just to give examples and give them time to think about that. And to list something, what can be done to achieve these goals... you need to motivate”

(Anna, German physiotherapist)

In the quotation above, Anna explained that providing patients with options of goals to work towards can invite cooperation and providing pressure at the right time can increase the motivation required to achieve the set goals. Setting a series of small goals was also seen as helpful:

“It's silly really, to do the treatment same for everybody. Each one [patient] has his own goals... the patient will come empowered to do the next thing in his schedule, not my schedule, in his own schedule.” (Khadeja, Kuwait physiotherapist)

Khadeja highlighted the importance of individual goals for patients and setting them *with* the patients, rather than imposing them *on* the patient. This goal-setting strategy was perceived to increase self-efficacy and motivation.

In this theme, health professionals' statements indicated a mutual cooperative relationship with the stroke patient. They highlighted the need for goals to be made by the patient. However, they also acknowledged that they (health professionals) could show the patient appropriate goals. In this respect, the patient was viewed as an active participant in the rehabilitation process rather than a passive recipient of therapy.

Other suggestions:

A few participants offered additional suggestions for enhancing self-efficacy in rehabilitation. These included: providing successful patient examples to motivate recent stroke survivors, acknowledging individual differences in motivation, and providing incentives.

Providing extrinsic incentives is regarded by some authors as diminishing intrinsic motivation (Deci et al 1999). However, the health professionals who offered this suggestion seemed mindful that motivational strategies needed to be tailored to the individual patient's needs. One physiotherapist used the metaphor of the 'trophy room' to describe some patients who require extrinsic rewards for their efforts, contrasting their motivation with that of intrinsically driven patients:

“If somebody has a trophy room, I would probably need to give them lots of extrinsic rewards. I would need to show them on a measuring tape what they did or a video tape, or give them lots of feedback in their face, cheerleading awards and lots of tangible goals that they can see and be reminded of. For the person that is motivated within or doesn't require the trophy room, he is okay with

knowing what they are capable [of], what their past achievements were and that was good enough. They don't need the fuss around and that person who is going to be more rewarded by his success on a personal level than me cheerleading for them. So just being aware of that and the differences in personality... you cater to the best you can". (Matt, Canadian physiotherapist)

The need to identify what a specific patient would regard as an incentive was emphasized in the above quotation, as well as an awareness of individual differences. Giving explicit feedback about change might be sufficient incentive. However, other patients might want more tangible rewards or social reinforcement for their achievements. The Kuwaiti speech and language therapist mentioned the use of food items liked by the patient as rewards. Other therapists mentioned that in physical rehabilitation, rewards might be doing activities enjoyed by the patient. In deciding upon and providing incentives, most of the health professionals indicated that they were in charge of the rehabilitation relationship. They regarded this as a positive form of control to increase the motivation and cooperation of the stroke survivor.

Discussion

Phase one of this study investigated the relationship between self-efficacy and life satisfaction among female patients living with a first stroke in Kuwait, using questionnaire measures. Two categories of self-efficacy were measured: the standardized General Self-efficacy scale (GSE) and an adapted questionnaire termed Psychosocial Adaptation Self-efficacy (PSE). The participants scored relatively highly

on self-efficacy using both measures. Mean GSE was 31.65. This was relatively high as Scholz, Dona, Sud et al (2002) reported the following mean GSE scores from healthy participants in different countries: Japanese 20.22, Hong Kong Chinese 23.05, Costa Ricans 33.19, Danes 32.19 and French 32.19. The results showed that both measures of self-efficacy were correlated with life satisfaction in female patients affected by stroke living in Kuwait. These results suggest that personal confidence and control after stroke appear to be significantly linked with life satisfaction despite the collectivist culture of Kuwait (Dean, Mahomed, and Maulana, 2006).

These findings resonate with those of Robinson-Smith, Johnston, and Allen (2000) in the US. Albeit focusing on quality of life rather than life satisfaction, they reported, from a sample of 63 stroke survivors, that self-efficacy correlated strongly with quality of life at one and six months post-stroke. Previous studies (Smith, Magill-Evans, and Brintnell, 1998; Hampton and Marshall, 2000; Cicerone and Azulay, 2007) of people with other neurological conditions have also demonstrated a positive relationship between self-efficacy (especially that related to psychological recovery) and life satisfaction, in support of the results of this study. Results from (healthy) participants without neurological problems have also indicated that self-efficacy is strongly related to life satisfaction (Caprara and Steca, 2005). This suggests that the association between self-efficacy and life satisfaction might be widespread and not limited to stroke. The findings also suggest that such associations are not confined to more individualistic Western cultures. Results of this study provide information about a Non-Western culture, which has not been investigated previously.

In Phase 2, health professionals identified five main areas where the demonstrated associations between self-efficacy and life satisfaction can be applied clinically from their perspective. Key strategies were thought to be: motivate and encourage patients, provide more education about recovery and rehabilitation, identify and demonstrate change, provide a high quality environment and therapy, and set goals. These strategies resonate with those proposed by Robinson-Smith, Johnston, and Allen (2000) in a Western context. They advocated strategies such as providing patients with vicarious experience through observing others with similar disabilities achieving similar goals; health care personnel promoting self-efficacy through goal-setting; positive self-talk; and prayer. Health professionals were thought to play an important role in facilitating self-efficacy of patients because of their expertise as perceived by the patient.

In the Kuwaiti context, stroke rehabilitation professionals identified the need to provide positive encouragement and avoid negative statements regarding the patients' condition or progress, in order to maintain an optimistic outlook. Jones (2006) has also explained the importance of verbal feedback in enhancing patient capability. This feedback can be given both by health professionals and also the family/friends of the patient. Bandura (1994), however, emphasised that it is more difficult to increase self-efficacy by verbal persuasion alone than it is to reduce self-efficacy with negative feedback. Negative words appear to confirm already existing self-doubts and insecurities, discouraging effort.

The need to ensure that the rehabilitation environment is well equipped was mentioned as another factor that can enhance self-efficacy and satisfaction post-stroke. Both Western and non-Western health professionals suggested that patients' confidence in the therapist and rehabilitation facility facilitated self-efficacy. Dixon et al (2007) highlighted the importance of a multidisciplinary rehabilitation environment in increasing self-efficacy in neurological rehabilitation. In such an environment, patient concerns are met and information provided more adequately. The effects of a well-equipped and/or aesthetically pleasing environment on patients' persistence in sustaining physical activity and participation in prescribed exercise therapy is suggested by recent research and deserves further enquiry (Owen et al, 2004; Rhodes and Fiala, 2009).

Participants highlighted the importance of setting goals tailored to the individual characteristics of the patients. This involved getting to know the patients, their likes and dislikes, and communicating with their family members to ensure that therapy is tailored to their individual concerns and personal goals. These suggestions reflect sound client-centred practice (Sumsion, 1999). They also showed awareness of individual differences in patients' needs for direction and encouragement by the therapist, which resonates with the notion of 'meshing' – that interactions work most effectively when health professionals tailor their communication strategies to the patient's own desired level of control (Kiesler and Auerbach, 2006). Four of the five participants putting forwards this suggestion had Western backgrounds. Whether such individualized approaches to therapy are more consistent with Western values is unclear, as the

sample was too small to make confident inferences. However, these findings suggest further enquiry into the influence of cultural values on therapeutic practice related to tailoring and goal-setting.

Both Western and non-Western health professionals thought that showing patients examples of other patients who have improved might help increase self-efficacy and improve life satisfaction. This is also known as learning through vicarious experience, or learning through the observation of others (Holloway and Watson, 2002). Setting up of informal groups of stroke survivors seems likely to facilitate enhancing self-efficacy through sharing experiences and learning from the successes and mistakes of others (Jones, 2006). Personal observation suggests that informal groups might be more appropriate for the younger patients affected by stroke in Kuwait but further research is needed to determine how to tailor such programmes acceptably for older stroke survivors in Kuwait who are likely to be more profoundly dependent upon their families for care and decision-making, for cultural as well as functional reasons.

Critical Evaluation

Phase 1 of this study adopted a cross-sectional design. This meant that causal associations could not be made. Compared to some other similar published studies, this study used a relatively small sample size of 40 participants for pragmatic reasons i.e. time available for the required interview process, and difficulty recruiting sufficient numbers of willing patients meeting the exclusion and inclusion criteria. Only female patients were recruited in Phase 1 therefore the results cannot be generalised to include

male stroke survivors. The sample was also heterogeneous in terms of time elapsed since stroke. Self-report measures may have been open to social desirability effects regarding self-efficacy and life satisfaction, especially because the questionnaires were administered in an interview (as completion of pencil and paper questionnaires was culturally unfamiliar to many participants) and not independently/ anonymously. The influence of the interview context cannot easily be established through a comparison study as asking older Kuwaiti patients to complete culturally unfamiliar rating scales by themselves would be likely to yield invalid data.

The sample recruited to Phase 2 was relatively small, although diverse in cultural terms, as reflects the wider population of health professionals in Kuwait. All were able to reflect fluently on the importance of self-efficacy in the rehabilitation process, showing sound awareness of this construct both among the physiotherapists and the other health professionals taking part. It is possible that only professionals who were familiar with this construct volunteered for the study and therefore their views may not be widely held by the larger population of stroke rehabilitation specialists, affecting transferability of the findings. There was limited potential to study cross-cultural differences in the views of the health professionals participating, and this might form the basis of further research. The interviewer (first author) shared professional experience of the Kuwaiti stroke rehabilitation context, although working in another rehabilitation facility. This increased opportunities for rapport whilst requiring reflexive self-monitoring to limit her influence on the data collection and analysis process. There was awareness of potential bias from being familiar with previous published research into self-efficacy and yet there was

genuine interest in whether such an individualised Western concept would have any application in the highly collective culture of Kuwait. This motivated the research team to remain open to participants' accounts and to set aside preconceptions. The collaboration of both authors in analyzing the interview data and seeking consensus about the main emergent themes also reduced bias, but a process of member checking might have added further credibility.

Conclusion:

Among female Kuwaiti patients affected by a first stroke, the findings of this study showed a significant positive association between self-efficacy (both general and psychosocial adaptation measures) and life satisfaction post-stroke. These results were consistent with those of a number of studies carried out in Western countries, and indicate the importance of self-efficacy even within a collectivist Arabic culture. A stronger positive correlation was observed between life satisfaction and the psychosocial adaptation self-efficacy scale devised for this project than with a general self-efficacy measure, justifying further investigation. Health professionals regarded self-efficacy as important for both male and female stroke survivors in the rehabilitation process in Kuwait and when interviewed, they highlighted ways in which they thought self-efficacy could be enhanced during stroke rehabilitation. These strategies can be incorporated within physiotherapy and other therapies, such as motivating and encouraging patients, and education (especially about psychosocial consequences of stroke and self-management strategies), identifying functional changes, and creating a high quality physical and social environment for therapy. Appropriate goal-setting and

culturally appropriate patient engagement strategies were also considered to enhance self-efficacy and patient participation in rehabilitation in Kuwait. This would need to involve the family, as nearly all people affected by stroke live with their extended family in Kuwait, and would also need to be relevant to the wishes of the patient.

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TABLE 1 Profile of health professionals participating in interviews.

<u>Pseudonyms</u>	<u>Age (in full years)</u>	<u>Nationality</u>	<u>Profession</u>
Katie (HP01)	45	American	Occupational therapist
Anna (HP02)	28	German	Physical therapist
Andrea (HP03)	40	Canadian	Physical therapist
Smitha (HP04)	30	Indian	Physical therapist
Aylne (HP05)	47	Philippine	Nurse
Matt (HP06)	40	Canadian	Physical therapist
Ahmed (HP07)	27	Kuwaiti	Speech and language therapist
Khadeja (HP08)	45	Kuwaiti	Physical therapist
Helen (HP09)	38	Malaysian	Nurse
Mohammed(HP10)	42	Kuwaiti	Physical therapist
Deepa (HP11)	45	Indian	Nurse
Grandesa(HP14)	29	Philippine	Physical therapist

APPENDIX 1. PSYCHOSOCIAL ADAPTATION SELF-EFFICACY SCALE

Please rate your confidence to carry out the tasks mentioned in each statement on the scale provided.

Not at all Confident **1 2 3 4 5 6 7 8 9 10** **Totally confident**

1. How confident are you that you can deal with the frustration of your disability/disease?
2. How confident are you that you can manage your symptoms so that you can do the things you enjoy doing?
3. How confident are you that you can cope in the future?
4. How confident are you that you can overcome your difficulties?
5. How confident are you that you can get family and friends to help you with the things you need (such as household chores like shopping, cooking, or transport)?
6. How confident are you that you can get emotional support from friends and family (such as listening or talking over your problems)?
7. How confident are you that you can continue to do the things you like to do with friends and family (such as social visits and recreation)?
8. How confident are you that you can keep from feeling sad and lonely?