

F. Psychosocial Issues Educational Supplement

Andrew McClure, Robert Teasell MD FRCPC, Katherine Salter

- F1. Post-Stroke Depression..... 02
- F1.1 Depression: General Information.....03
- F1.2 Impairment and Depression Post-Stroke..... 04
- F1.3 Prevention of Post-Stroke Depression..... 04
- F1.4 Treatment of Post-Stroke Depression..... 05
- F1.5 Case Study: Post-Stroke Depression.....09

- F2. Social Support and Functional Status..... 15
- F2.1 Importance of Social Supports..... 16
- F2.2 Social Support Interventions..... 16
- F2.3 Family and Stroke..... 17
- F2.4 Family Interventions..... 19

- F3. Sexuality.....22

- F4. Driving.....24

- F5. Returning to Work Post Stroke.....28

30 Pages

F1. Post-Stroke Depression

F1.1 Depression: General Information

F1.1.1 Depression: General Information

Q1. Give three possible explanations why post-stroke depression is common.

Answer

1. *Coincidental:* The risk factors for stroke are similar to the risk factors for depression.
2. *Reactive:* Due to the physical losses incurred following a stroke.
3. *Neurological:* Neurotransmitter imbalance caused by the stroke itself.

F1.1.2 Prevalence and Natural History of Post-Stroke Depression

Q2. How common is depression following a stroke?

Answer

1. Depression is common following stroke.
2. Incidence is about 20% of acute and subacute strokes and prevalence ranges from 30-40% of stroke patients, with a greater number having minor depression.

F1.1.3 Stroke Location and Depression

Q3. Describe the relationship between post-stroke depression and the location of the stroke in the brain.

Answers

1. Initially it was thought that left hemispheric stroke patients, particularly those with more frontal lesions, were more susceptible to depression.
2. There was speculation that this may have been related to loss of catecholamine pathways more prominent in the frontal left hemisphere.
3. More recently it has been recognized that left hemispheric stroke patients are more likely to become depressed early after a stroke (i.e. during the rehabilitation phase) while right hemispheric stroke patients are more likely to become depressed later on in the course of the stroke.
4. At present there is significant doubt that depression is more predominant in left versus right hemispheric stroke patients. There remains a wide diversity of finding in studies looking at the relationships between stroke location and depression. Not all studies have confirmed this relationship and recent meta-analyses have failed to establish a definitive relationship between the site of the brain lesion and depression.

F1.4 Assessment of Post-Stroke Depression

Q4. How well is depression diagnosed after a stroke?

Answer

1. Detection and diagnosis of post-stroke depression is often inconsistent.
2. Compliance with guidelines for screening of depression is poor.
3. Identified barriers to routine screening include time pressures and concerns about screening tools.

F1.2 Impairment and Depression Post-Stroke

F1.2.1 Functional Impairment and Depression Post-Stroke

Q1. Describe the relationship between functional ability and depression.

Answer

1. Depression is associated with lower functional ability and in turn can have a negative impact on functional recovery.
2. The co-occurrence of stroke and depression is associated with greater physical limitations than either condition on its own.
3. Physical impairment and post-stroke depression appear to act upon each other, and each influences the recovery of the other.
4. Identification and treatment of depression in the early phases may serve to enhance further functional recovery.

F1.2.2 Cognitive Impairment and Depression Post-Stroke

Q2. What is the impact of post-stroke depression on cognitive impairment?

Answer

1. Post-stroke depression appears to have a negative impact on cognition; however, the relationship between post-stroke depression and cognition appears to be poorly understood.

F1.3 Prevention of Post-Stroke Depression

Q1. What evidence is there for preventative treatment of post-stroke depression?

Answers

1. Early initiation of antidepressant therapy in non-depressed stroke patients has been associated with a reduced risk of development of post-stroke depression.
2. While treatment over a period of one year was associated with a significant reduction in risk, further study is needed to assess both the duration of treatment and optimal timing for initiation of therapy.

F1.4 Treatment of Post-Stroke Depression

AHA/ASA Endorsed Guidelines for the Management of Adult Stroke Rehabilitation Care: Recommendations for Mood Disturbance: Depression and Emotionalism (Duncan et al. 2005)

Assessment

- The Working Group makes no recommendation for the use of any specific diagnostic tool over another.
- Recommend using a structured inventory to assess specific psychiatric symptoms and monitor symptom change over time.
- Recommend assessing poststroke patients for other psychiatric illnesses, including anxiety, bipolar illness and pathological affect.

Treatment

- Strongly recommend that patients with a diagnosed depressive disorder be given a trial of antidepressant medication, if no contraindication exists.
- The Working group makes no recommendation for the use of one class of antidepressants over another; however, side effect profiles suggest that SSRIs may be favoured in this patient population.
- Recommend SSRIs as the antidepressant of choice in patients with severe, persistent, or troublesome tearfulness.
- There is insufficient evidence to recommend for or against the use of individual psychotherapy alone in the treatment of PSD.
- Recommend patients be given information, advice, and the opportunity to talk about the impact of the illness on their lives.
- Routine use of prophylactic antidepressants is not recommended in post- stroke rehabilitation.
- Recommend that mood disorders causing persistent distress or worsening disability be managed by, or with the advice of, an experienced clinical psychologist or psychiatrist.

F1.4.1 Pharmacologic Treatment of Post-Stroke Depression

Q1. What pharmacological options are available for treatment of post-stroke depression?

Answers

1. Tricyclic antidepressants
2. SSRIs
3. Methylphenidate

Q2. What evidence is there for tricyclic antidepressants as treatment for PSD?

Answer

1. There is strong evidence that heterocyclic antidepressants improve depression post stroke.
2. Side effects in elderly patients mean that these medications should be used with caution in this population.

Q3. What is the Evidence for SSRIs in treatment of Post-Stroke Depression?

Answer

1. There is strong evidence that SSRIs are effective in the treatment of post-stroke depression.

Q4. What is the role Selective Noradrenaline Reuptake Inhibitors (NARI) in post-stroke depression?

Answer

1. Reboxetine, a noradrenaline reuptake inhibitor, is effective in treating retarded post-stroke depression.

Q5. What is the role of Serotonin and Noradrenaline Reuptake Inhibitors (SNRIs) in post-stroke depression?

Answers

1. There is some evidence venlafaxine, an SNRI, is a safe and effective treatment for post-stroke depression

Q6. Discuss the role of psychostimulants for post-stroke depression.

Answer

1. Methylphenidate appears to be effective in treating depression post stroke and has an earlier onset of action than traditional antidepressants.

Q7. What is the impact of the pharmacologic treatment of depression on functional recovery post stroke?

Answer

1. There is strong evidence that pharmacological treatment of depression is associated with improved functional recovery post stroke

F1.4.2 Non-Pharmacologic Treatment of Post-Stroke Depression

Q8. What non-pharmacological treatments are available to treat post-stroke depression?

Answer

1. Electroconvulsive therapy.
2. Repetitive transcranial magnetic stimulation.
3. Cognitive behavioral therapy.

Q9. Describe each of these treatments and the degree to which they are helpful in post-stroke depression.

Answers

1. ECT appears to be a safe treatment for post-stroke depression but has not been well studied as to efficacy.
2. Repetitive transcranial magnetic stimulation has been shown to be an effective and well tolerated treatment for post-stroke depression in patients resistant to pharmacotherapy.
3. Cognitive behavioural therapy for post-stroke depression, based on a single RCT, has not been shown to be effective.

F1.4.3 Guidelines for Treatment of Post-Stroke Depression

Q10. What do guidelines say about the treatment of post-stroke depression?

Answers

1. Guidelines for the treatment of post stroke depression recommend screening, assessment and treatment with an appropriate antidepressant for a period of approximately 6 months.
2. Treatment (and subsequent withdrawal) should be monitored closely by an appropriately trained healthcare professional.

Summarized Guidelines for Use of Antidepressant Medication Following Brain Injury (British Society of Rehabilitation Medicine & the British Geriatric Society 2005).

Assessment

- Recommend informal screening at each assessment point (e.g. ask patient about mood or ask family about behaviours that might suggest depression)
- If depression is suspected, proceed to more formal, detailed assessment (using validated measures, interview and/or observation)

Treatment

- Clinicians should observe patients carefully regarding impact of depression on function, social participation and QOL
- Clinicians should attempt to determine if other, simple, interventions might be appropriate to “boost the patient’s mood”
- Possible risks and contraindications for treatment should be considered carefully along with issues of informed consent and patient/family education
- Antidepressants should be prescribed according to an agreed-upon plan of treatment that includes: baseline assessment using a validated measure, assessment of appropriate baseline biochemical markers, selection of an appropriate agent, clinical review of response to optimize dose (at 2-3 weeks) and repeat assessment at 6 – 8 weeks. Given a positive response to treatment, planned use would extend to 6 months with a procedure for withdrawal at the end of treatment.
- An alternate plan should be in place should treatment with an antidepressant be ineffective.

During Treatment

- Patients should see doctor regularly during treatment (every 2 months) – any clinical deterioration should be investigated – particularly known side effects such as hyponatraemia, seizures, GI bleeding, anti-cholinergic symptoms, sexual dysfunction, sedation, hallucinations, increased confusion, headache
- Antidepressant medication should not be given with repeat prescription and no more than 2 months supply should be written

Referral for Formal Psychiatric Interview

- If depression is severe or resistant to treatment
- Past history of psychiatric disorder and/or use of antidepressant
- Patient shows evidence of suicidal ideation or intent
- Seems that the patient needs to be treated under Mental Health Act 1983 or equivalent (UK)

Withdrawal from Treatment

- At end of treatment (generally 4 – 6 months), there should be a planned period of withdrawal taking place gradually over a period of 1 – 2 months
- Prior to withdrawal, patient mood should be re-evaluated (using same measure as at baseline)
- Patient/family should be warned re: possibility of rebound symptoms. For longer lasting relapse of depression, long-term treatment may be considered. Formal psychiatric advice should be sought.

F1.5 Case Study: Post-Stroke Depression

Case Study

A 78 year old male with a large left hemispheric stroke which has rendered him hemiplegic and suffering from a severe motor (Broca's) aphasia is admitted to the rehabilitation unit. He appears to be depressed. The medical student with you is not surprised that the patient is depressed; after all he has had a devastating stroke and cannot speak. The nurse next to you states that many patients who have a stroke do not necessarily become depressed. They ask you as to whether depression is common post stroke and who is most likely to become depressed.

Q1. How common is depression post-stroke?

Answer

1. Depression is a common complication post stroke, affecting approximately one-third of stroke patients.

Q2. What are the risk factors associated with increased likelihood of depression post stroke?

Answers

1. Risk factors associated with an increased risk of post-stroke depression include:
 - Female gender
 - Past history of depression or psychiatric illness
 - Social isolation
 - Functional impairment
 - Cognitive impairment

Case Study (continued)

The nurse states to the medical student that it has been her experience that left hemispheric stroke patients are more often depressed when compared to their right hemispheric counterparts. They ask you if this is supported by the evidence.

Q3. Describe the relationship between PSD and the location of the stroke.**Answer**

1. There remains a wide diversity of findings in studies looking at the relationships between stroke location and depression.
2. Not all studies have confirmed this relationship and more recent meta-analysis have failed to establish a definitive relationship between the site of the brain lesion and depression.
3. There is some evidence to suggest that left hemispheric stroke patients are more likely to become depressed shortly after the onset of the stroke while right hemispheric stroke patients are more likely to become depressed later on.

Q4. Describe the negative impacts of Post-Stroke Depression.**Answers**

1. PSD has a powerful negative impact on functional recovery. Although patients with post-stroke depression may experience significant recovery, functional ability will remain at a lower level than non-depressed patients, despite rehabilitation interventions. Physical impairment and post-stroke depression appear to act upon each other, and each influences the recovery of the other.
2. PSD impacts negatively upon social activity and vice versa post-stroke. The effects of stroke alters how patients perceive themselves, their capabilities and self-image (Labi et al. 1980). These perceptions are associated with depression (Feibel and Springer 1982) and are also associated with social withdrawal, which may in turn exacerbate depression. Even after intensive intervention for depression, social function among depressed stroke survivors was significantly less than among non-depressed stroke survivors during the first year following the stroke event.
3. Depression appears to have a negative impact on cognition post-stroke. Overall there appears to be a relationship between cognitive impairment and the presence of depression, although the reported results vary and the relationship appears to be complex. As is the case for many of the factors with which PSD is associated, it is difficult to determine whether cognitive impairment results from depression, is a risk factor for depression, or both (Andersen et al. 1995). Murata et al. (2000) demonstrated that, in 41 stroke patients with major depression diagnosed in an acute hospital setting, improvement in depression over 3-6 months was associated with significantly greater increases in cognitive function when compared to depressed patients with no mood improvements. The authors suggest that,

since patients with major depression whose mood improved experienced greater cognitive improvements than any other group of study participants, depression leads to cognitive impairment and produces a “dementia of depression”.

4. Negative thoughts associated with PSD are associated with greater mortality. The results of a more recent large study (Williams et al. 2004) confirmed earlier evidence of increased long-term mortality in stroke patients who experience post-stroke depression. House et al. (2001) and Lewis et al. (2001) suggest that the identified association may not be between depression and mortality per se, but is between a more general psychological distress and mortality instead.

Case Study (continued)

The nurse is concerned about depression and asks the physician to assess the patient for depression. The physician does not think the patient is depressed and questions the value of screening assessments for depression in stroke patients.

Q5. What is the consensus on screening/assessment of post-stroke patients for depression?

Answer

1. There is consensus regarding the importance of the identification and diagnosis of PSD.
2. Identification requires the use of standardized assessment instruments.
3. Diagnosis requires a clinical interview conducted by an appropriate mental healthcare professional.
4. While the importance of screening for PSD is commonly acknowledged and is recommended in current guidelines, it has been reported that the compliance rate is as low as 50% (Bowen et al. 2005).

Case Study (continued)

The social worker is asked to see the patient and administers the Hospital Anxiety and Depression Scale. She reports that the patient high on the depression and anxiety subscales of the HADS.

Q6. Describe the HADS.

Answer

1. Hospital Anxiety and Depression Scale (HADS).
2. Bidimensional scale to identify cases of depression and anxiety in physically ill patients.
3. 14 items with an anxiety and depression subscales.
4. Easy to administer and score.
5. Has good reliability and validity.

Case Study (continued)

The social worker reports that the patient scored high on the HADS for depression. A psychiatrist is consulted and notes that the patient meeting the DSM-IV criteria for a major depression. The psychiatrist recommends pharmacological treatment.

Q7. What pharmacological options are available?

Answer

Drug therapy for depression is based on the notion the depression is associated with an imbalance and under-activity of the cerebral noradrenergic and serotonergic systems. The three pharmacological treatments include:

- Heterocyclic antidepressants
- SSRIs
- Methylphenidate

Q8. Describe the mechanism of tricyclic antidepressants.

Answer

1. Tricyclic antidepressants function by blocking the reuptake of serotonin or noradrenaline at the level of the presynaptic neuron.
2. Reuptake into the presynaptic neuron is the major mechanism by which neurotransmitters are inactivated.
3. Blocking reuptake leads to increased neurotransmitter in the synaptic cleft.

Q9. Do tricyclic antidepressants improve depression post stroke?

Answer

1. There is strong evidence that heterocyclic antidepressants improve depression post stroke.
2. Side effects in elderly patients means that these medications should be used with caution in that population.

Q10. Describe the mechanism of Selective Serotonin Reuptake Inhibitors (SSRIs).

Answer

1. Fluoxetine was the first SSRI antidepressant and it results in selective blocking of reuptake of serotonin into presynaptic neurons.
2. It does not block the reuptake of noradrenaline which distinguishes SSRIs from TCAs.

Q11. Do SSRIs improve depression post stroke?

Answer

1. Based on the results of meta-analysis there is strong evidence that SSRIs are effective in the treatment of post-stroke depression.

Case Study (continued)

The nurse asks you whether there are any guidelines for the assessment and management of post-stroke depression.

Q12. What do Guidelines say about the Assessment and Treatment of Post-Stroke Depression?

Answers

1. Current guidelines recommend both screening and appropriate assessment of depression in patients with stroke.
2. Treatment with an appropriate antidepressant is recommended for a period of approximately 6 months (given evidence of treatment effectiveness).
3. Treatment and subsequent withdrawal should be monitored closely by an appropriately trained professional.

References

Andersen G, Vestergaard K, Ingemann-Neilsen M, Lauritzen L. Risk factors for post-stroke depression. *Acta Psychiatr Scand* 1995;92:193-198.

Bowen A, Knapp P, Hoffman A, Lowe D. Psychological services for people with stroke: compliance with the U.K. National Clinical Guidelines. Clin Rehabil 2005;19:323-330.

Feibel JH, Springer CJ. Depression and failure to resume social activities after stroke. Arch Phys Med Rehabil 1982;63:276-277.

House A, Knapp P, Bamford J, Vail A. Mortality at 12 and 24 months after stroke may be associated with depressive symptoms at 1 month. Stroke 2001;32:696-701.

Labi ML, Phillips TF, Greshman GE. Psychosocial disability in physically restored long-term stroke survivors. Arch Phys Med Rehabil 1980;61:561-565.

Lewis SC, Dennis MS, O'Rourke SJ, Sharpe M. Negative attitudes among short-term stroke survivors predict worse long-term survival. Stroke 2001;32:1640-45.

Murata Y, Kimura M, Robinson RG. Does cognitive impairment cause post-stroke depression? American Journal of Geriatric Psychiatry 2000;8(4):310-317.

Williams LS, Ghose SS, Swindle RW. Depression and other mental health diagnoses increase mortality risk after ischemic stroke. Am J Psychiatry 2004;161:1090-95.

F2. Social Support and Functional Status

F2.1 Importance of Social Supports

Q1. Describe the role of social support networks on rehabilitation and recovery post stroke.

Answers

1. The presence and size of social support networks as well as the perceived effectiveness of social support networks have a positive influence on physical recovery and quality of life post stroke.
2. Higher levels of support are associated with greater functional gains, less depression, and improved mood and social interaction.
3. The size and perceived effectiveness of social support networks are important predictors of discharge destination.

Q2. Describe those factors which have a positive and a negative impact on quality of life following a stroke.

Answers

1. Positive factors include independence in ADLs, functional abilities, social support and health care resources.
2. Negative factors include depression, cognitive impairment, stroke severity and aphasia.

F2.2 Social Support Interventions Post Stroke

Q1. What evidence is there for social work interventions once the patient is discharged home?

Answers

1. Stroke survivors, once their rehabilitation is complete, often feel abandoned by the healthcare system.
2. Unfortunately, there is strong evidence that social work interventions focusing on providing counseling along with information and education for stroke patients and their families are not associated with improvements in independence or social activity.

F2.3 Family and Stroke

For the individual, a stroke changes the capacity to function, not only as a physical being, but also as a social one. Resuming successful psychosocial roles is a complex and difficult process. This process is reliant upon instrumental and emotional support that comes primarily from the stroke survivor's family (Palmer and Glass 2003). This transition can be viewed as a process of adaptation as roles, responsibilities and patterns of support within the family change to accommodate the needs of both the stroke survivor and the other members of the family (Palmer and Glass 2003). In viewing the family as a system, it becomes clear that a stroke has a profound effect not only on the individual stroke survivor but also on the entire family system. At present, research has emphasized the effects of re-integrating the stroke survivor into the family on the caregiver-patient dyad.

F2.3.1 Family Caregiving System Post Stroke

Q1. Describe the family caregiving system following a stroke to one of its members.

Answer

1. The brunt of long-term care of the stroke survivor falls onto family caregivers.
2. Usually there is one primary caregiver who is the primary provider of direct care assistance.
3. Most often the primary caregiver is a spouse; if a spouse is not available it will fall to a daughter or son.
4. Friends and other family members tend to be primary caregivers only if near relatives are not available.

Q2. Discuss the role of family interactions after a stroke.

Answers

1. Perceived family dysfunction is common post stroke
2. Family function affects treatment adherence, performance of ADLs, and social activity.
3. Effective communication, good problem solving or adaptive coping, and strong emotional interest in each other characterize well-functioning families.

F2.3.2 Caregiver Stress and Breakdown

Q3. Describe those factors which contribute to caregiver stress and breakdown post stroke.

Answers

1. Caring for a stroke survivor with severe disabilities can be a formidable task.
2. Caregivers cope better with physical limitations than cognitive or emotional disorders.

3. Lack of rest or time to fulfill obligations, the need for constant vigilance/supervision as well as lack of respite can have a negative impact on caregivers.
4. Caregivers are often required to sacrifice their own personal needs.
5. Chief reasons for reports of less enjoyment of life on the part of caregivers include loss of companionship, increased domestic responsibility and interference with leisure and social activities.

Q4. What tasks lead to greater caregiver burden?

Answer

1. Provision of emotional support.
2. Provision of transportation.
3. Managing finances, bill and forms related to the stroke.
4. Carrying out household tasks.
5. Managing behaviours.

Q5. Describe how the impact of caring for a stroke survivor changes over time.

Answers

1. Immediately following a stroke caregiver burden is influenced more by stroke severity.
2. Caregivers are more preoccupied initially with physical limitations, medications and finances.
3. Later (after 6-12 months), in part influenced by some continuing improvement, caregivers are more influenced by cognitive and emotional issues and may spend more time assisting with travel and leisure activities.
4. Outpatient rehabilitation and support has no influence on caregiver depression at 3 months post stroke but does at 12 months.
5. Over the longer term (after 2 years), burden of care tends to decrease as does social support, while depression and quality of life remain stable.

Q6. Describe the role of social contact and activity in caregiver coping.

Answer

1. After the family member has a stroke, caregivers suffer from smaller social networks, diminishing social contacts as well as less satisfying social contacts.
2. This in turn can have a negative impact on the caregiver's mood, in particular depression.

Q7. How common are personality disorders post stroke?

Answer

1. Personality disorders are quite common among stroke survivors, most of which are negative.
2. Negative changes noted include irritability, loss of self control, lower frustration tolerance, emotional lability, self-centeredness and reduced initiative.

F2.3.3 Depression in Caregivers Post Stroke

Q8. How common is depression among caregivers post stroke? Who is more likely to become depressed?

Answer

1. Stroke caregivers are more susceptible to depression.
2. Incidence of depression ranges from 30-50%.
3. Factors which predict post-stroke depression include the stroke survivor's level of dependence, the amount of tangible support received, opportunities for socialization and a negative orientation towards problem solving.
4. One study showed that caregivers at highest risk of depression tended to be the spouse of younger, more severely impaired patients with lower social incomes, smaller social networks with whom they visited frequently and lower levels of future optimism and expectation.

F2.3.4 Summary of Caregiving Post Stroke

Q9. Summarize the effects of caregiving post stroke.

Answers

1. Commonly identified effects of caregiving on the caregiver include decreased health (both physical and mental), decreased social contact and activity, increased risk for depression, increased carer stress, strain or burden and an overall decrease in quality of life.
2. Decreased social contact and activity in itself may contribute to increased carer strain, increased risk of depression and decreased life satisfaction.
3. Age, severity of stroke, stroke-related impairments, and functional and cognitive status have been reported as influencing caregiver outcomes.

F2.4 Family Interventions**F2.4.1 The Family Caregiver and Social Support Interventions**

Interventions designed to improve the social function and support networks may have beneficial effects on the risk for depression as well as increasing the social activity and improving life satisfaction of the caregiver. In their 1998 review of interventions with families post stroke,

Korner-Bitensky et al. concluded that helping caregivers to maintain social and leisure activity may result in improved caregiver wellbeing.

Q1. What social support interventions have been shown to help caregivers?

Answer

1. Support provided by caregiving peers may have a positive effect on the caregiver.
2. It is important to include both the caregiver and stroke patient in social support interventions.
3. There is moderate evidence that participation in an online program providing information and support through contact with both a nurse and other caregivers is not associated with improvements in perceived emotional support, physical help or caregiver health.
4. Participation in a structured psychoeducational program (e.g. Powerful Tools for Caregiving) may improve well-being and reduce behaviours that could lead to problems with physical health.

F2.4.2 Information Provision and Family Education

Q2. What is the benefit of providing stroke patients and their families with information and education?

Answer

1. There is strong evidence that a positive benefit, associated with the provision of information and education through a variety of intervention types.

Q3. What type of information is helpful and how is it best delivered?

Answers

1. Education session may have a greater effect on outcome than the provision of information materials alone.
2. There is strong evidence that skills' training is associated with a reduction in depression.
3. There is moderate evidence that training in basic nursing skills improves outcomes of depression, anxiety, and quality of life for both the caregiver and the stroke patient.

F2.4.3 Perceived Needs for Information, Education and Training

Q4. Do stroke patients and their families receive adequate information or teaching?

Answers

1. Although the receipt of information is of great importance to stroke patients and their families/caregivers, relatively few receive adequate information about topics they perceive to be important.
2. Caregivers rarely receive adequate training in skills they require to care for the stroke survivor.
3. Healthcare professionals involved in stroke care may acknowledge the importance of education for patients and carers; however, relatively few provide adequate information based upon the information needs of the recipients.
4. Written materials should be suited to the educational/reading level of the intended recipient.

References

Korner-Bitensky N, Tarasuk J, Nelles J, Bouchard JM. The impact of interventions with families poststroke: a review. Top Stroke Rehabil 1998;5:69-85.

Palmer S, Glass TA. Family function and stroke recovery: A review. Rehabilitation Psychology 2003;48:255-265.

F3. Sexuality

F3. Sexuality

In 1975, the World Health Organization acknowledged the importance of sexual health, which it defined as “*the integration of the somatic, emotional, intellectual and social aspects of sexual being, in ways that are positively enriching and that enhance personality, communication and love.*” In a study of individuals aged 50 – 92, Gott et al. (2003) reported that among this group of older individuals, sex remained an important element of a close emotional relationship (Gott et al. 2003). However, sex may be assigned a lower priority, not due to aging per se, but rather due to an increasing prevalence of disability or health problems that create a barrier to sexual activity (Gott et al. 2003). Sexual dysfunction after stroke has been reported to be a problem that has a significant impact on the wellbeing of stroke patients. However, it is an issue that is often underestimated or simply ignored during rehabilitation despite its importance to stroke survivors (Buzzelli et al. 1997; Murray and Harrison 2004).

F3.1 Decreased Sexuality Following Stroke

Q1. Describe reasons for decreased sexual activity following a stroke.

Answer

1. Sexual activity is generally decreased following a stroke.
2. Sexual drive is still present.
3. Main barriers to sexual activity are physical impairments and psychological factors.
4. Physical impairments include physical limitations and lack of communication
5. Psychological factors include a changed body image, reduced self-esteem and fear of another stroke.

References

Buzzelli S, de Francesco L, Giaquinto S, Nolfe G. Psychological and medical aspects of sexuality following stroke. *Sexuality and Disability* 1997;15:261-270.

Gott M, Hinchliff S. How important is sex in later life? The views of older people. *Soc Sci Med* 2003;56:1617-1628.

Murray CD, Harrison B. The meaning and experience of being a stroke survivor: an interpretative phenomenological analysis. *Disabil Rehabil* 2004;26:808-816.

F4. Driving

F4. Driving

F4.1 The Importance of Driving to Stroke Survivors

Q1. How important is driving to stroke survivors?

Answer

1. Driving represents the final step towards independence and reintegration into the community.
2. Failure to resume driving negatively impacts social activities and overall wellbeing.

Q2. How might a stroke compromise driving ability?

Answer

1. Visual field deficit.
2. Inattention, particularly left neglect.
3. Cognitive deficits (problem solving).
4. Hemiplegia or hemiparesis.
5. Apraxias.

F4.2 The Assessment of Driving Post Stroke

Q3. What assessment tools are available to assess a stroke survivor's fitness to drive?

Answer

1. There are no specific assessment tools which are able to accurately predict who is able to drive and who cannot.
2. Determination of ability to drive should not rely on neuropsychological testing or an on-road test evaluation.
3. Cognitive tests such as the Trail Making Tests (A and B) and Rey-Osterreith Complex figure design have been consistently predictive of driving assessment outcomes.
4. Other tests which have been identified as potentially useful include the Motor Free Visual Perceptions Test, the Useful Field of View test as well as tests of road knowledge (road sign and hazard recognition tests) and reaction time.
5. Few studies have reported the development of cut-off points with appropriate sensitivity and specificity suitable for use within a stroke population.

Q4. Are stroke survivors' good accurate judges of their own ability to drive?

Answer

1. Most driving adults believe that they are better drivers than they are.
2. Stroke survivors often are unaware of mistakes that they make in formal testing scenarios.
3. Stroke survivors tend to rate their driving ability as “above average” and better than their spouses.

Q5. When the stroke patient does return to driving what situations would you advise them to avoid?**Answers**

1. Driving in an unfamiliar area.
2. Driving at night.
3. Driving when tired (includes long distances).
4. Parallel parking.
5. Driving in rush hour, especially in a larger city.
6. Driving on busy multi-lane highways.

F4.3 Interventions to Improve Driving Post Stroke**Q6. What is the evidence for treatment interventions in patients not able to drive?****Answers**

1. There is moderate evidence that a visual attention retraining program is no more effective than traditional visuoperception retraining in improving the driving performance of patients with stroke.
2. There is moderate evidence that a simulator training program involving the use of appropriate adaptations and driving through complex scenarios similar to real life is associated with improvement in driving fitness and successful on road evaluation.
3. Visual attention retraining does not improve driving fitness in stroke survivors more than traditional visuoperception retraining.
4. Driving fitness may be improved through the use of a stimulator training program.

Case Study

A 63-year old gentleman presented with a moderate-sized right middle cerebral artery infarct involving the anterior parietal and temporal regions. He was admitted to rehab 7 days after having suffered his infarct which is as result of occlusion of the internal carotid artery. On initial testing he has evidence of a significant left hemiparesis. He is a Chedoke McMaster Scale 2 in the arm, 2 in the hand, 3 in the leg and 2 in the foot.

He responds well to 6 weeks of rehabilitation. Near the time of discharge his motor function has improved. His leg is now a 5/7 and his foot 4/7. His arm is 4 and his hand is 3. His MVPT testing near the time of discharge is 29 and it took him 12 seconds to complete. Therapists report that he still has a tendency to bump into the door jams on the left side but this has improved dramatically. There are no visual field deficits.

Just prior to discharge this gentleman informs you that he wishes to drive and asks you if that is a possibility.

Q7. Describe your management of this case with regard to driving.

1. Inform Ministry of Transport.
2. Occupational therapy testing (MVPT >30 and Brake Reaction Test).
3. Visual field testing (eye specialist).
4. On-The-Road testing.

F5. Returning to Work Post Stroke

F5. Returning to Work Post Stroke

Q1. What approach would you take with getting stroke survivors back to work?

Answers

1. A substantial proportion of stroke survivors who were employed prior to the stroke event do not return to work.
2. Factors influencing return to work include the degree of physical and cognitive impairment, age, educational level and type of pre-stroke employment.
3. There is consensus opinion that stroke survivors who worked prior to their stroke should, if their condition permits, be encouraged to be evaluated for their potential to return to work.
4. Vocational rehabilitation strategies to assist the return to work of stroke survivors need to be developed and evaluated.

References

Andersen G, Vestergaard K, Ingemann-Neilsen M, Lauritzen L. Risk factors for post-stroke depression. *Acta Psychiatr Scand* 1995;92:193-198.

Bowen A, Knapp P, Hoffman A, Lowe D. Psychological services for people with stroke: compliance with the U.K. National Clinical Guidelines. *Clin Rehabil* 2005;19:323-330.

Buzzelli S, de Francesco L, Giaquinto S, Nolfi G. Psychological and medical aspects of sexuality following stroke. *Sexuality and Disability* 1997;15:261-270.

Feibel JH, Springer CJ. Depression and failure to resume social activities after stroke. *Arch Phys Med Rehabil* 1982;63:276-277.

Gott M, Hinchliff S. How important is sex in later life? The views of older people. *Soc Sci Med* 2003;56:1617-1628.

House A, Knapp P, Bamford J, Vail A. Mortality at 12 and 24 months after stroke may be associated with depressive symptoms at 1 month. *Stroke* 2001;32:696-701.

Korner-Bitensky N, Tarasuk J, Nelles J, Bouchard JM. The impact of interventions with families poststroke: a review. *Top Stroke Rehabil* 1998;5:69-85.

Labi ML, Phillips TF, Greshman GE. Psychosocial disability in physically restored long-term stroke survivors. *Arch Phys Med Rehabil* 1980;61:561-565.

Lewis SC, Dennis MS, O'Rourke SJ, Sharpe M. Negative attitudes among short-term stroke survivors predict worse long-term survival. *Stroke* 2001;32:1640-45.

Murata Y, Kimura M, Robinson RG. Does cognitive impairment cause post-stroke depression? *American Journal of Geriatric Psychiatry* 2000;8(4):310-317.

Murray CD, Harrison B. The meaning and experience of being a stroke survivor: an interpretative phenomenological analysis. *Disabil Rehabil* 2004;26:808-816.

Palmer S, Glass TA. Family function and stroke recovery: A review. *Rehabilitation Psychology* 2003;48:255-265.

Williams LS, Ghose SS, Swindle RW. Depression and other mental health diagnoses increase mortality risk after ischemic stroke. *Am J Psychiatry* 2004;161:1090-95.