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Cover Autumn leaves



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Editorial

COVID-19 and older adults: in the face of a global disaster

Nilamadhab Kar

Abstract

The Coronavirus disease 2019 (COVID-19) pandemic is having a particularly increased impact on older adults as the case fatality rate increases with age. Besides this, isolation, inadequate basic support and an over-stretched health care system are adversely affecting the elderly population. These are leading to psychosocial and interpersonal issues besides the compounded physical and mental health concerns. It is probable that the needs of the elderly are being neglected during the pandemic. While the health, economic and other societal consequences of the pandemic are being managed, support systems and communities should take timely steps to support the older adults adequately.

Key words

Aged, COVID-19, Disaster, Risk, Stress, Management

Introduction

Pandemics are not new; the world has experienced many for centuries and some in the not-so-distant past. The possibility of a virus pandemic was well within the awareness of scientific community and policy makers. There is an appreciable knowledgebase in understanding virus infections, and preventing, containing and treating these illnesses. In spite of these, the Coronavirus disease 2019 (COVID-19) pandemic is a catastrophic reality which has affected the whole world in a very short period, with a colossal loss of life and livelihood. It is a disaster that is continuing to evolve and we are far from the exact picture of this pandemic and its effect on life as a whole. There are many unknown factors; and the uncertainties are ripe.

Risk for older adults

Early in the course of the COVID-19 pandemic it was identified that older adults have a higher case fatality rate;¹ although it affects almost all age groups.^{2,3} Individuals with comorbidities are at particular risk; and in old age multimorbidity is common.

There are many additional issues for the older adults related to the changing social and medical support levels during COVID-19. Like any other disaster situations the services are stretched and are available to a proportion rather than the whole population. Another concern is the isolation and their effects on the elderly.^{2,4} The issues are more acute for those who are dependent on others for their basic needs, those who are living alone and residents of care homes. Although many countries could set up support systems and many voluntary organisations stepped in to help in most parts of the world, older adults continue to experience difficulties. As health care systems are stretched, it is quite possible that the support for the older adults with chronic non-communicable diseases is compromised to a variable extent. While the attention at the moment is understandably focused to contain the spread of the virus, provide treatment and arrange economic support for the general public; there is a specific need to address the issues of the older adults as well. Older adults are known to have increased vulnerability during disastrous situations;⁵ and it is a reality that their needs are often neglected.

Action points

Protecting the vulnerable

Protecting the vulnerable groups, especially the elderly requires special measures. Isolating them from the exposure to infection is the need of the hour, whether it is from visiting family members or caregivers, and avoiding infection during hospital visits for other illnesses is extremely important. Adhering to the measures to control the spread of the virus as suggested by the authorities is essential for all. As the process of protecting the vulnerable people will probably continue for a while, the support systems around them should be robust.

Maintaining nutrition and health care

During this crisis and isolation, taking care of the basic needs of the elderly such as diet and nutrition, continuing care for their existing ailments, maintaining the availability of medicines, hospital care, nursing and other measures as before are important. Support to maintain their activities of daily living and physical activity is crucial, especially for the elderly who have been dependent on others. There may be a great divide between older adults in rural and urban areas where the challenges could be different. This will involve coordinated local measures and resources to provide them not only financial but material support to maintain day-to-day life.

Supporting mental health

Supporting the elderly to deal with the psychological effects of disastrous situation and isolation is the next major task. Isolation affects mental health; many will develop anxiety, depression and stress symptoms, and would require help. It is a concern that many will suffer silently without communicating their distress, and there may not be any scope or resources in many parts of the world to provide psychological support to them. Most of the elderly may not have access to internet based resources or would not know how to use it. As socialisation will remain curtailed, it is important that caregivers should take special effort to communicate and stay in touch with elderly relatives and neighbours during these periods.

Individual and community stress levels are high during the pandemic; and there could be many reasons. Risk of infection, fear of death, death of known persons by COVID-19, financial problems, inadequate care and support, isolation and sometimes lack of basic necessities of life are some of the factors. It is extremely important to manage stress during this period before it affects both physical and mental health, and quality of life.

There are many ways stress can be addressed. Remaining busy in activities, setting up and sticking to a routine, daily physical exercise, yoga, meditation, relaxing activities, spending time in activities that one likes are helpful strategies. Remaining in touch with family and friends, with available means, sharing and venting can help. Limiting exposure to stressful information from media is important too. Identifying stress symptoms and taking measures early is the key. Sometimes it may be required for some people to seek help from professionals, usually in the form of counselling, relaxation and supportive therapy. Very few older adults may require medications, e.g. for insomnia, anxiety and depression. It is important not to self-medicate or indulge in substance use to manage stress, which may add further complications.

There are many resources on stress management available from professional bodies through electronic and print media.^{3,6} Older adults with cognitive impairments should be provided the information in clear, concise and written form. The stress management strategies should be culturally appropriate to make them more acceptable and usable. Providing mental health care and information during other supportive work is often helpful.

It appears that for a considerable period of time the usual personal, social and cultural life will remain affected by the pandemic. Learning to live differently will be increasingly essential, which will involve changing behaviour and adapting to new realities by both elderly and their carers; sooner one realises this and accepts the better.

Supporting the care-givers

As an ancillary, all carers and supporting health professionals providing elderly with care and attending to their basic needs, need to ensure that there is no chance of contaminating the elderly during the process. It will require regular testing for infection and use of appropriate personal protection equipment. The carers will also need to be supported for their own emotional health during this period of crisis with many untimely deaths, hopelessness and anguish.

Conclusion

There is progress in the science about understanding viral infections, their prevention and treatment. However there are challenges; and developing intervention measures would take time. In the meantime, everyone in society has a role to play to stop the progress of this infection, protect themselves and the vulnerable people in their communities. These experiences may lead to a new world order of working together and supporting each other beyond the political boundaries to improve and protect health. Hope will be a crucial element of recovery, as long as it takes.

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Review

Late-life depression: epidemiology, assessment and diagnosis

Sanju George, Amala Augustine, CT Sudhir Kumar

Abstract

Background: Rates of depression increase with age, and it is estimated that almost 1 in 4 older people is depressed. However, the majority of such depressed elderly go unrecognized and un-treated due to various patient, clinician, and systemic factors. Aim: We intend to review the epidemiology, assessment and diagnosis of depression to provide necessary information to help mental health clinicians to correctly identify and assess patients with late-life depression. Method: Comprehensive literature search using online databases in the field of late-life depression. Results: Risk factors for depression in the elderly include chronic medical illnesses, social isolation, being a carer, poor social support, bereavement, past history of depression, substance use, and cognitive impairment. Suicide is more common in the depressed elderly than in younger age groups and deserves particular attention during assessment. Syndromal depression often goes unrecognized as it can present in the elderly as somatization, hypochondriasis, and psychomotor retardation or agitation. Accurate and timely diagnosis is also complicated by the fact that late-life depression is often associated with cognitive impairment, physical disability, and anxiety. A diagnosis should only be arrived at after a comprehensive history taking, observation of the patient's behaviour, and corroborative history from a reliable informant. Conclusions: Depression is common in older adults, and is a major public health issue. Very few depressed elderly consult their general practitioners for help, and consequently remain unrecognized and untreated. Timely screening and appropriate assessment can lead to effective treatment and resolution of symptoms and thereby can significantly reduce morbidity and mortality.

Key words

Assessment, Depression, Diagnosis, Elderly, Epidemiology, Late-Life

Introduction

There is no universal agreement on when 'late-life' or 'old age' starts, and hence any cut off age for 'late-life' is likely to be arbitrary. In the context of late-life depression, there is some consensus that it refers to an episode of depression that occurs after the age of $65.^1$

The UK has a fast growing ageing population with nearly 12 million people aged 65 and above in 2018.² In other words, over the next 20 years the population of older adults aged 65-84 years old will increase by 39% and the proportion over the age of 85 years will have increased by 106%.³

Depression is common in older people. It is estimated that 1 in 4 older people is depressed, warranting treatment.^{4,5} Rates of depression increase with age, it is more common in those with co-existing physical illnesses, it is more common in those residing in institutions, and in those from socio-economically disadvantaged groups and ethnic minority groups.

Although older people consult their General Practitioners (GP) twice as much as other age groups,⁵ only one in six older people with depression discuss their symptoms with the GP, and only less than half of these receive adequate treatment.⁶ Reasons for such under-recognition and under-treatment could include patient factors (not seeking timely and appropriate care, stigma, seeing depressive symptoms as part of old age and being inevitable), clinician factors (limited awareness of late-life depression among health care professionals, being distracted by patients presenting with somatic symptoms, lack of time in consultations, etc.) or 'system' factors.

From public health and healthcare perspectives, underrecognition and under-treatment of depression in the elderly is a matter of concern. Hence perhaps it is unsurprising that depression is the second leading cause of disability in the world regardless of age.⁷

In this paper, we discuss the epidemiology, assessment, and diagnosis of late-life depression (also referred to as depression in the elderly) and thereby hope to equip the non-specialist with the necessary information in correctly identifying and assessing patients who suffer from latelife depression. This paper is intended as a clinical review paper for use by practicing clinicians. We also wish to highlight that this paper is mostly set in the context of the UK population, although the general principles of assessment and diagnosis are relevant across populations.

Epidemiology

A pan-Europe study (The EURODEP study), which included the UK, found that $14 \cdot 1\%$ of women and $8 \cdot 6\%$ of men aged 65 years and over suffer from a depressive disorder severe enough to warrant treatment.⁸ A metaanalysis found the point prevalence of major depression in over 75s to range from 4.6% to 9.3%, and the rates for those with sub-threshold depressive symptoms to range from 4.5% to 37.4%. This study also noted that subthreshold depressive symptoms were two to three times more common than major depression in those aged 55 and over.⁹

Late-life depression, like depression in younger adults, is more common in women. More often than not, depression in later life tends to have recurrent episodes, and the course is complicated. A six-year prospective study noted that less than a third of elderly depressives had complete remission, whereas 32% followed a severe chronic course and symptoms fluctuated in 44%.¹⁰

Furthermore, the prevalence of late-life depression increases with associated physical comorbidities such as brain disorders (dementia, stroke, Parkinson's disease, etc.) and chronic medical conditions such as diabetes mellitus and hypertension.¹¹ Box I lists the medical, psychosocial, and psychiatric risk factors for depression in the elderly.

Box 1: Risk factors for late-life depression

Medical

- Chronic medical illnesses, such as diabetes mellitus, COPD, etc.
- Cancer
- Chronic pain
- Brain diseases such as dementia, stroke, Parkinson's disease, cerebrovascular disease, etc.
- Endocrine/metabolic disorders

Psychosocial

- Social isolation
- Change in financial circumstances
- Being a carer
- Poor social support
- Bereavement and loss

Psychiatric

- Past history of depression
- Alcohol misuse
- · Comorbid anxiety
- Cognitive impairment

Depression and cognitive impairment

Depression and cognitive impairment frequently co-occur, and the relationship between the two is complex and can be viewed from different perspectives. Late-life depression can be seen as a prodrome of dementia, and so early life depression can be a risk factor for dementia. Other perspectives include cognitive impairment as a feature of dementia, depression as a reaction to dementia, depression affecting the threshold for manifesting dementia, and both (dementia and depression) being independent conditions that share common risk factors.¹²

Depression is a common occurrence in all types of dementia and at all disease stages, including mild cognitive impairment.¹³ Depression has a prevalence rate of up to 50% in patients with Alzheimer's disease and can increase caregivers' burden.¹⁴ Depression in Alzheimer's is notable for a higher frequency of motivational disturbances such as fatigue, psychomotor slowing and apathy. It has been suggested that less stringent diagnostic requirements for the frequency and duration of symptoms of depression may be more appropriate for people with dementia.¹⁵ In addition to subjective reports, information from the caregiver about observable mood and behaviour changes can be extremely helpful in arriving at a diagnosis of depression. The mood can be low, irritable, angry, or anxious, and disturbed sleep, appetite, and energy are common. Social withdrawal, lack of interest in self or others, low initiative, and poor motivation, can be part of depression or dementia.¹⁶

Some refer to a condition called pseudo-dementia: this presents with symptoms masquerading as dementia (i.e. cognitive deficits) but is caused by underlying depression and not dementia – hence the term 'pseudo' meaning false. Sometimes such cases are difficult to distinguish from real dementia, but if treated with antidepressants, they get better, and so do their cognitive functioning. Some of the key features which can help distinguish pseudodementia from depression are given below in Box 2.

Box 2: Dementia and pseudodementia

Dementia	Pseudodementia				
Has no insight	Has insight				
Depressive cognitions are	Depressive cognitions				
less prominent	more prominent				
Gradual onset	Sudden onset				
Gradual progressive decline	Rapid decline				
Vegetative symptoms less	Vegetative symptoms				
prominent	more prominent				
Does not respond to anti-	Responds to				
depressant treatment	antidepressant				
	treatment				
Mood not depressed	Depressed mood				
No risk of suicide	Risk of suicide				

Suicide in the elderly with depression

Suicide is more common in the depressed elderly than in younger age groups. Depression in the elderly can also lead to death through non-suicidal means such as by non-compliance with regular medications, social withdrawal, and non-engagement in preventive and curative treatment measures. Depressed older people are more likely than their younger counterparts to act on their suicidal thoughts and thereby commit suicide.¹⁷ Furthermore, the ratio of attempted to completed suicide is highest in older adults –

4:1 compared to 8:1 to 33:1 for the general population.¹⁸ They are also likely to make more planned attempts at suicide, use more lethal means, and also communicate fewer warnings than younger people. All the above make it imperative that a comprehensive risk assessment is carried out in an elderly patient who has depressive symptomatology. Specific risk factors for suicide in older people include the following: older age, male gender, social isolation, bereavement, history of previous attempts, evidence of planning, chronic illness and drug or alcohol misuse.¹⁹

Depression in older people has a range of adverse consequences such as poor quality of life, impairment of activities of daily living, physical comorbidities, premature mortality, higher rates of suicide, and cognitive impairment. In addition, late-life depression results in higher utilization of medical and associated health services with its resultant costs and burden to the health sector, family, and society.²⁰

Assessment

Many elderly patients fail to recognize depressive symptoms in themselves and tend to view it as part of ageing or see it as associated with other physical illnesses. This delays or prevents them from seeking timely healthcare from their GP or specialists. And even when elderly depressed patients present to their GP, they do so, more often than not, with physical/somatic symptoms and hence go unrecognized and untreated. Somatization, hypochondriasis and psychomotor retardation or agitation more commonly form part of the clinical picture.²¹

Box 3: Assessment of late-life depression

- An in-depth psychiatric history: presenting complaints, duration of complaints, etc.
- History of substance use, medication use and misuse,
- Past medical and psychiatric history
- Pre-morbid personality,
- Family history
- Interpersonal, social and occupational history
- Suicide risk
- Medical issues, physical comorbidity
- Corroborative information, if possible
- Explore psychosocial stressors
- Past treatment details
- Comprehensive mental state examination
- Cognitive assessment
- Relevant physical examination and investigations

Accurate and timely diagnosis is also complicated by the fact that late-life depression is often associated with cognitive impairment, physical disability and anxiety.²² Another important issue to be kept in mind while assessing the depressed elderly is the risk of deterioration in the patient's physical health due to malnutrition (often due to inadequate oral intake). For example, a depressed elderly person may present to the hospital with repeated episodes of confusion or delirium (caused by

hyponatremia). This may resolve quickly on correcting the electrolyte imbalance, only to reappear unless the root cause is treated adequately, i.e. depression (causing malnutrition and secondary hyponatremia), Key aspects of assessment of depression in the elderly are summarized in Box 3.

Given the changing population dynamics, in the UK and most of the Western world, many older people live on their own and with little social support. Loneliness, poor social support, lack of meaningful interactions/work, etc., can predispose and perpetuate depression in the elderly. Similarly, particular attention should be paid to possible substance use (alcohol, tobacco, etc.) in the elderly as this can be a cause and a perpetuating factor for depression in the older population.

Diagnosis

Described below are the ICD-10 and DSM 5 diagnostic criteria for depression.^{23,24} Diagnosis is arrived at only after comprehensive history taking, observation of the patient's behaviour and corroborative history from a reliable informant.

ICD-10 diagnostic criteria for depression

In ICD-10 (WHO, 1992) depressive disorders are further divided according to their severity into mild, moderate, or severe depression (See Box 4). It divides symptoms of depression into 'typical' symptoms and other 'associated' symptoms, and further states that symptoms need to be of at least two weeks' duration for a diagnosis of depression to be made.

The three typical symptoms are: depressed mood, loss of interest and enjoyment, and increased fatigability. The seven associated symptoms of depression are: reduced concentration and attention, reduced self-esteem and selfconfidence, ideas of guilt and unworthiness, bleak and pessimistic views of the future, ideas or acts of self-harm or suicide, disturbed sleep, and change in appetite with corresponding weight change.

Box 4: ICI severe depre) 10 criteria for mild, moderate and ession
Mild depression	2 typical symptoms and 2 associated symptoms
Moderate depression	2 typical symptoms and at least 3 of the other symptoms
Severe depression	All three of the typical symptoms and at least four of the other symptoms

DSM 5 diagnostic criteria for depression

DSM 5 (APA, 2013)²⁴ categorizes depressive disorders into major depressive disorder, persistent depressive disorder (dysthymia), premenstrual dysphoric disorder, disruptive mood dysregulation disorder, and others. The summary of the diagnostic criteria for major depressive disorder are as follows. Criteria A requires five or more of the following symptoms present over two weeks period, they are: Depressed mood, Considerably diminished interest in most activities, Weight loss (more than 5% of body weight in a month), Daily insomnia or hypersomnia, Psychomotor agitation or retardation, Tiredness, Feelings of worthlessness, Reduced ability to think or concentrate and Recurrent thoughts of death. For a diagnosis of depression, either depressed mood or loss of interest/pleasure is a must. Criterion B requires that the above symptoms should cause clinically significant distress, or impairment in social, occupational or other important areas of functioning. There is an exclusion criterion C, which suggests that the episode is not due to a substance or a medical condition.

As per DSM 5, the severity of a depressive episode is classified as mild, moderate or severe depending on the number of criteria fulfilled, the severity of those symptoms and the degree of functional disability.

Screening questions: case-finding for depression

The Quality and Outcomes Framework (QOF) of the General Medical Services (GMS) Contract²⁵ required GPs and practice nurses to use two screening questions in order to increase the detection of depression in patients with diabetes and heart disease.

'During the past month, have you often been bothered by feeling down, depressed, or hopeless?'

'During the past month, have you often been bothered by having little interest or pleasure in doing things?'

A 'yes' to either question is considered a positive test. A 'no' response to both questions makes depression highly unlikely. A further question, 'Is this something you want help with?' may increase the usefulness of the case-finding questions in practice.²⁶

Box 5: Rating scales for use in the depressed elderly Hospital Anxiety and Depression Scale (HADS)

• Self-rated scale, contains two subscales: depression (HADS-D) and anxiety (HADS-A), covers previous week. Scores >8 for each subscale have sensitivity and specificity of 80% and predictive validity of 70%.

Patient health questionnaire (PHQ-9)

• This is a self-rated depression assessment tool scoring each of the nine DSM-IV criteria from 0 (not at all) to 3 (nearly every day). It has been validated in adults over 60 in primary care in the United States and the Netherlands and at a cut-off score of > 9 has a sensitivity of 88% and specificity of 80%.

Geriatric Depression Scale (GDS-15)

• GDS was specifically developed and validated for use in old age,²⁹ contains fewer somatic items but is only suitable for patients with no, mild, or moderate cognitive impairment (>15/30on minimental state examination). In those over 60, a cut-off score of ≥ 5 indicates a case of depression with a sensitivity of 92% and specificity of 54%.

Once depression is suspected, then an assessment of the severity of depression should be made by the practitioner using a structured and standardized scale such as Patient Health Questionnaire (PHQ-9),²⁷ or the Hospital Anxiety and Depression Scale (HADS)²⁸ etc. These are described briefly in Box 5.

Clinicians need to bear in mind that depression in the elderly differs qualitatively from depression in younger age groups. Box 6 summarises some key differences in the onset, presentation, risks, and response to treatment.

Box 6: Depression in the young vs. old					
Factors	Depression in young	Depression in older adults			
Onset	Early in life	Late in life			
Previous psychiatric history	Common	Uncommon			
Family history of psychiatric illness	Often	Less common			
Symptoms presentation	More affective symptoms	More somatic symptoms, anxiety, hypochondriasis			
Comorbid physical illness	Uncommon	Common			
Cognitive impairment	Unlikely	More likely			
Course and prognosis	Better	Worse			
Response to treatment	Better	Poor			
Risk of suicide	Low	High			

Conclusion

Depression is common in over 65s, and it is a significant public health issue. However, very few depressed elderly consult their GPs for help, and often depression is missed due to various factors such as being masked by various physical health conditions, lack or inadequate assessment by clinicians, lack of training and so on. Consequently, many depressed elderly go unrecognized and untreated. It is expected that this review of the epidemiology, assessment, and diagnosis of late-life depression will equip the mental health clinicians with the necessary information in correctly identifying and assessing these patients. **Correspondence:** Sanju George, Professor of psychiatry and psychology, Centre for Behavioural Sciences and Research, Rajagiri College of Social Sciences, Kalamassery, Kochi, Kerala, India, E-mail: sanjugeorge531@gmail.com

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Review

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Treatment of late-life depression

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Abstract

Background: Late-life depression is a major cause of morbidity among the elderly. It is often underdiagnosed and undertreated, and several factors make the management challenging. Aim: This paper aims at identifying various factors associated with the treatment of depression in the elderly. Method: A comprehensive literature review of recent relevant publications has been done. Results: The treatment approach for late-life should be multimodal encompassing biological, psychological, and social interventions. A comprehensive geriatric assessment should be completed for those suspected of depression. Specialist mental health care and inpatient treatment may be required when there are high-risk factors associated with the presentation including persistent suicidal thoughts, self-neglect, psychotic symptoms, and severe agitation. Appropriate use of relevant mental health act and medicolegal framework need to be considered. There are three phases in the treatment of depression: (i) acute phase, (ii) continuation phase, and (iii) maintenance phase. There is relatively little data on the use of antidepressants in older patients. should be exercised while prescribing Caution antidepressant medications in the elderly. Comorbid medical conditions put patients at a higher risk of side effects, and being on several medications increases the chances of drug interactions. Physical treatments like Electro Convulsive Therapy (ECT) do play a major role in the treatment of depression in the elderly. Psychological interventions have been found to be effective. **Conclusion:** The judicious use of antidepressant medications and ECT as part of a multimodal approach is beneficial in the treatment of depression among the elderly. There is a need for further studies that look specific factors associated with the treatment of depression in the elderly.

Key words

Antidepressants, Depression, Elderly, Late-Life

Introduction

Depression among the elderly is often underdiagnosed and undertreated. Late-life depression can be treated effectively with pharmacological and psychological interventions. With a higher relapse rate than the younger population and coexisting physical problems, treatment of depression among elderly warrants special attention. Though the management principles are shared across age groups, specific biological factors like changes in metabolism and poor psychosocial support among the elderly need to be factored in. In this paper, we discuss the pharmacological and psychological treatments for late-life depression. A comprehensive literature review of recent relevant publications has been done for this article.

Box 1: Pre-treatment evaluation

- The elderly presenting with the first episode of depression should have a full medical work up to rule out any medical disorders.
- Haemogram / Full Blood Count, fasting glucose, urine analysis, electrolytes, liver function tests, renal function tests, ECG, B12 and folate, thyroid function tests, calcium, lipid profile are recommended.
- Physical examination to exclude nutritional deficiency, anaemia, and thyroid abnormalities should be routinely done.
- Neuroimaging need to be considered in first episode depression, treatment-resistant depression, and when the patient has neurological signs or present with cognitive impairment.
- Further investigations should be directed by the nature of the presentation and clinical findings.
- Cognitive assessment should be completed where appropriate.
- Especially in those with cognitive impairment and dementia, delirium should be ruled out.

Pre-treatment evaluation and investigations

A comprehensive geriatric assessment should be completed for those suspected with depression.¹ Detailed treatment history, including antidepressants and other medications used in the past, response to them and side effects, compliance, and tolerability, and patient's views about medications need to be taken. Treatment history of other physical problems and medications used and the relationship between their use and depression, including potential drug interactions, are important as well.

Box 2: Summary of NICE guidelines for the treatment of depression

Persistent sub-threshold depressive symptoms or mild to moderate depression:

- Low-intensity psychological interventions
- Consider antidepressants if there is a past history of moderate or severe depression or initial presentation of sub-threshold depressive symptoms present for at least 2 years or sub-threshold depressive symptoms or mild depression persisting after other psychological interventions or for people with depression and a chronic physical health problem, if mild depression that complicates the care of the physical health problem.

Persistent sub-threshold depressive symptoms or mild to moderate depression with inadequate response to initial interventions, and moderate and severe depression:

• Antidepressant or a high-intensity psychological intervention like CBT or interpersonal therapy (IPT)

For people with moderate or severe depression:

• Combination of antidepressant medication and a high-intensity psychological intervention (CBT or IPT)

Complex and severe depression:

• Secondary care multidisciplinary mental health services where options include inpatient care, full range of high-intensity psychological interventions, medications, electroconvulsive therapy, etc.

People with chronic physical health problems:

• Consider the role of the physical health problem and any prescribed medication in the depression. Check that the optimal treatment for the physical health problem is being provided and adhered to; seek specialist advice if necessary.

Treatment

There are three phases in the treatment of depression: (i) acute phase – is the time from initiation of treatment to remission, i.e., patient does not meet the criteria for diagnosis and has no or minimal residual symptoms and, has an improvement in psychosocial and occupational functioning; (ii) continuation phase – this phase aims to preserve and stabilize the remission – here, treatment is extended for a period of time in order to prevent a return of depression. If the depressive syndrome returns during the continuation therapy, it is considered a relapse of the same episode. It is sometimes difficult to differentiate between a relapse and a recurrence (is a new episode of depression); (iii) maintenance phase - aims to prevent the recurrence of depression as well as to enable full and lasting functional recovery.²

A comprehensive treatment package can include antidepressant medication, electro-convulsive therapy (ECT), psychological interventions, social interventions, and measures to address psychiatric comorbidity and medical problems if any. Specialist mental health care and inpatient treatment may be required when there are highrisk factors associated with the presentation, including persistent suicidal thoughts, self-neglect, psychotic symptoms, and severe agitation. Appropriate use of relevant mental health act and medicolegal framework need to be considered. For many elderly, an in-patient admission might be their first experience of a psychiatric ward, and the psychological and social impact this can have should be given due consideration. As the evidence base for treatment of depression, specifically in the elderly, is limited,³ most treatment guidelines do not distinguish between depressed adults and the elderly depressed. Hence, general guidance on treating depression in adults needs to be followed in a stepped care/ algorithmic approach with due age-sensitive precautions. A summary of the UK National Institute for Health and Clinical Excellence (NICE) guidelines for the treatment of depression is given in Box 2.4,5 It advises to prescribe an age-appropriate dose when prescribing antidepressants for older people, taking into account the effect of general physical health and concomitant medication on pharmacokinetics and pharmacodynamics, and to carefully monitor for side effects.

Choosing an antidepressant

There is relatively little data on the use of antidepressants in older patients, especially in the very old and in those with significant medical co-morbidity, dementia, or neurological problems, and there is considerable heterogeneity between studies.² Physiological changes associated with ageing can affect drug distribution within the body and excretion. Comorbid medical conditions put patients at a higher risk of side effects, and being on several medications increases the chances of drug interactions. Factors such as a history of good response to past treatment, fewer side effects and good tolerability, and minimal interactions with drugs that are currently being taken and which least affect the general medical conditions help choose the antidepressant. The aim of the treatment of depression ought to be complete relief of symptoms (remission) with improved functioning and a better quality of life. Prescribers can use resources such as a drug's 'summary of product characteristics' (SPC) and the 'British National Formulary' (BNF)⁶ to make informed decisions with each patient. The doctor should support the patient in making treatment choices by providing adequate information and informing that it can take up to a few weeks to start feeling better.

(a) Antidepressant classes

Major classes of antidepressants include selective reuptake inhibitors (SSRIs: sertraline, serotonin escitalopram, citalopram, fluoxetine), serotonin norepinephrine reuptake inhibitors (SNRIs, e.g. venlafaxine and duloxetine), tricyclic antidepressants (TCA, e.g. nortryptiline, amitriptyline, lofepramine, etc.) and mono amine oxidase inhibitors (MAOs, e.g. phenelzine, reboxetine, etc.). Others include mirtazapine, bupropion, vortioxetine, agomelatine, and so on.

(b) Dosing strategies

Selective serotonin reuptake inhibitors (SSRIs) are the standard first-line treatment for depression;⁴ and sertraline, escitalopram, and citalopram are commonly prescribed; (citalopram increases the risk of QT prolongation). Older patients are typically started on a lower oral dose than younger adult patients, and it may be necessary to titrate doses for effectiveness. Higher plasma concentrations for a given dose are generally found in older compared to younger patients and doses may need to be adjusted particularly in patients with impaired renal or liver function.² If the side effects are not tolerable, change to a different antidepressant depending on the nature of the side effects. A recent guideline⁷ also supports the use of an SSRI or SNRI as first-line treatment, similar to earlier guidelines.^{2,8,9} Mirtazapine can be a first-line alternative when SSRIs cannot be used. Side effects of mirtazapine, such as increased appetite and weight gain, can be used to the benefit of some patients.

After 2 weeks of being on an antidepressant, treatment response should be evaluated, and if insufficient, optimization strategies should be implemented. In the absence of improvement after at least 2 weeks on an average dose of an antidepressant, increase the dose gradually up to the maximum recommended dose if well tolerated until clinical improvement, or limiting side effects are observed.

(c) Switching and augmentation strategies

Consider changing the antidepressant after at least 4 weeks at the maximum tolerated or recommended dose if there is no or minimal response, and after 4 to 8 weeks if there is only a partial response.⁹ In patients with only a partial response, switch to another antidepressant of the same or another class while considering the risk of losing the improvements made with the first treatment. At least 8 to 10 weeks may be required to achieve maximum symptom reduction, which is necessary before entering the continuation phase of treatment.² In severe depression with psychotic features, adding an antipsychotic such as olanzapine or quetiapine to the antidepressant is recommended. If one treatment is to be stopped during the maintenance phase, this should usually be the antipsychotic. Antipsychotics should be used with caution in those with cardiovascular disorders and those with cognitive impairment/ dementia due to an increased risk of stroke. ECT should always be considered where a rapid response is required or where other treatments have failed.10

Improvement in depressive symptoms during the early course of treatment has been identified as being highly predictive of a positive final treatment outcome.² If no moderate improvement (based on clinical judgement and scores on depression rating scales) is shown within 8 weeks of good compliance with the maximum recommended dose of an antidepressant, diagnosis should be reviewed, pharmacokinetic and pharmacodynamics factors need to be assessed,³ and clinical factors impeding treatment including general medical conditions, substance

use, comorbid psychiatric conditions and psychosocial factors need to be carefully looked into. Compared to younger adults, response to antidepressant treatment may be slower in older adults with older antidepressants (such as TCAs and MAOIs) whereas there is conflicting data regarding newer antidepressants (such as SSRIs and SNRIs).² Although the elderly may be a little slower to respond to antidepressant treatment than younger adults, this does not appear to be clinically significant.³

Non-responders

About one-third of the elderly depressed patients are treatment-resistant.¹¹ In at least 30% of depressive episodes, patients may not respond sufficiently to an adequately performed first-line treatment with any chosen antidepressant. Helpful strategies in such cases include: maximizing the dose of the initial antidepressant, switching to another antidepressant within the same pharmacological class, switching to another antidepressant from a different pharmacological class, combining two antidepressants from different classes, augmenting the antidepressant with other agents to enhance antidepressant efficacy, and combining the antidepressant with a psychotherapeutic intervention.

Second-line antidepressants include mirtazapine, venlafaxine, and so on. When the patient is weaned off the existing medication before starting the new one, there may be a loss of clinical improvement. Cross-titration (gradual reduction of the existing antidepressant while introducing and gradually increasing the new antidepressant) is an effective strategy to overcome this, but it has to be done cautiously considering potential the two antidepressants.¹⁰ interactions between Antidepressants with short half-lives can be switched within a week; fluoxetine requires a wash-out period of several weeks due to its longer half-life. Overall about 50% of patients respond to switching or augmentation, although data specific to the elderly is small. Augmentation with Lithium has been found to be effective.^{12,13} Lithium has the most evidence in support as augmenting medication.³ Lithium is usually an recommended as the first choice and the target serum levels for elderly must be in the range of 0.5 to 0.6 mmol/L, and it needs to be continued for a period of at least 1 year after achieving remission.¹⁴ Other augmentation/ adjunctive agents tried, include thyroid supplements, aripiprazole, psychostimulants, modafinil, etc. Combining psychotherapy or using a different psychological intervention may also be tried.

Bipolar depression

While treating bipolar depression, the clinician should also be cautious in preventing a switch to hypomania or mania. If the patient is already on a mood stabiliser, ensuring compliance and optimising it would be crucial. Lithium or lamotrigine may be used in the management of bipolar depression. Antidepressants appear to be effective in the short-term treatment of bipolar depression. Stopping antidepressants needs to be considered once bipolar depression remits. Use of antidepressants without the use of concurrent mood stabilizer or an atypical antipsychotic may be avoided. If the patient does not respond to monotherapy with mood stabiliser or antipsychotics, a combination of these agents with antidepressants may be considered.^{15,16} There have been post-hoc analyses of randomized clinical trials of lurasidone and quetiapine in which the elderly patients were examined separately, which showed that both drugs were successful and well-tolerated, suggesting that, as a class, atypical antipsychotics probably can be used in bipolar depression.^{17,18}

Precautions while prescribing antidepressants

Having considered if, when, and what medications to prescribe for the treatment of depression in the elderly, clinicians need to bear several precautions in mind.^{6,10,14} Some of the important precautions to bear in mind while prescribing antidepressants are summarised in Box 3.

Box 3: Precautions while prescribing antidepressants

- Depressive symptoms may get worse with antidepressants especially, during the start of treatment, titration of doses, and change of antidepressants.
- Consider the toxicity of prescribed medications in overdose and limit the amount of drugs available if the patient is at a high risk of suicide.
- Older adults are at an increased risk of reduced bone density, and falls and fractures.
- Tricyclic antidepressants have an increased risk of cardiac side effects including, postural hypotension leading to falls and fractures, cardiac conduction abnormalities, anticholinergic effects like urinary retention, dry mouth, constipation, and worsening of cognitive impairment.
- Citalopram increases the risk of QT prolongation and hence should not be prescribed along with other drugs with a similar effect.
- There is an increased risk of bleeding with SSRIs in those on NSAIDs and Aspirin.
- Do not prescribe an SSRI with warfarin and heparin due to antiplatelet effect.
- There is a risk of cardiac arrhythmias with high dose venlafaxine and possible exacerbation of hypertension with venlafaxine and duloxetine, hence the need to monitor blood pressure.
- When prescribing lithium, be careful about the brand due to bioavailability differences. Arrange for ECG, TFT, and U&E before initiation, and TFT and U&E every 6 months thereafter; and more often if there is renal impairment.
- Dementia, cardiovascular problems, diabetes and Parkinson's disease, commonly found in the elderly can worsen with highly anticholinergic drugs.

- SSRIs such as fluoxetine, paroxetine, and fluvoxamine have higher risks of drug-drug interactions.
- There is an increased risk of hyponatremia with antidepressants, especially SSRIs. Due to reduced renal functioning with ageing, hyponatremia secondary to a syndrome of inappropriate antidiuretic hormone secretion (SIADH) is an ongoing risk. Patients taking antidepressants, particularly SSRIs and venlafaxine, are affected.
- If a second antidepressant is added, and if both are serotoninergic, monitor for the emergence of Serotonin Syndrome.
- Beware of discontinuation syndrome for SSRIs and SNRIs This can be prevented by gradual tapering of the antidepressant.
- Exercise particular caution in switching from fluoxetine to other antidepressants; because fluoxetine has a long half-life.
- Mirtazapine can cause bone marrow suppression.

Alcohol and antidepressants

Alcohol can make depression worse and can also increase the side effects of antidepressants, such as drowsiness, dizziness, and co-ordination problems. Hence it is generally advised to avoid alcohol while taking antidepressants.⁶ Interaction of SSRI and related antidepressants with alcohol resulting in serious risk of pathological intoxication with gross disinhibition, violence, and memory impairment has also been reported though not specifically among older adults.¹⁹

Electro Convulsive Therapy (ECT) and other somatic treatments

ECT is considered when the treatment response required is rapid. Severe depression, psychotic features, catatonic symptoms, high risk of suicide, refusal of food, unable to take medications, treatment resistance, past history of good response to ECT are indications for ECT. ECT is relatively contraindicated in patients with recent myocardial infarction, brain tumour, cerebral aneurysm, and uncontrolled heart failure. It is a safe treatment option with better outcomes in the elderly.²⁰

There is some evidence to show higher age to be associated with higher rates of response.²¹ Elderly treated with ECT have a significantly shorter time to remission than those given pharmacological treatments.²² ECT is effective in as many as 70%–80% of elderly with major depression independent of age or any pre-existing cognitive impairment.²⁰ Various aspects of ECT in the elderly have been reviewed,²³ and the following suggestions are offered: Start with right unilateral electrode placement as it has lesser cognitive side effects and if no improvement shift to bilateral electrode placement. In severe depression, start with bilateral ECT. It is better to start with twice weekly; and if there is no adequate response shift to thrice weekly; this may be associated with faster improvement but higher risk of anterograde amnesia. Six to twelve ECTs are the usual course of treatment and consider the patient to be nonresponsive after 12 treatments. The elderly are more susceptible to confusion, especially with pre-existing cognitive impairment. Assess 24 hours before ECT and if confusion is a concern, change from bilateral to unilateral placement.

Alternatives to ECT, like repetitive transcranial magnetic stimulation (rTMS) and transcranial direct-current stimulation (tDCS), are useful treatment modalities with fewer side effects but require more evidence for their effectiveness. Some other somatic treatments, albeit infrequently used, include vagal nerve stimulation, deep brain stimulation light therapy, and sleep deprivation.

Monitoring during treatment

Patients who are started on antidepressants, and are not considered to be at increased risk of suicide, should be reviewed in a week or two; however if there is a risk of suicide, it is recommended that they are reviewed in a week. After that regular reviews for example, at intervals of 2 to 4 weeks in the first 3 months, and then at longer intervals, if treatment response is good are needed.⁴ Factors affecting adherence to medications include attitude, expectations, side effects, and physical health status. Measures to improve treatment adherence include simplifying the medication regime, explaining what to expect, and having a proper plan and regular reviews. Response to treatment should be evaluated not only on clinical symptoms but also on the improvement of the day-to-day functioning. Although depression rating scales and percentage changes are useful, pragmatism and clinical judgment should take precedence. Patients who have had their antidepressant dose increased should be monitored for an increase in the severity of side effects or the emergence of newer side effects. It is also important at each review to monitor for any worsening of depressive symptoms, emergence of agitation or anxiety, or an increase in the risk of suicide.

Continuation, maintenance, and relapse prevention treatment

There is a high risk of relapse after a depressive episode, especially in the first 6 months, and this risk declines with time in remission.³ Although treatment guidelines vary in their suggested duration for continuing antidepressant treatment after remission of the depressive episode, there is consensus that medication-responsive patients should have their medication continued at the acute treatment dose even after remission. Important factors affecting the risk of relapse and decision to continue antidepressants are given in Box 4 below.

NICE recommends continuation of antidepressant medication for at least 6 months after remission of an episode of depression.⁴ The need for continued antidepressant treatment beyond 6 months should be based on the presence of risk factors for relapse. The

depressed elderly should be advised to continue antidepressants for at least 2 years if they are at risk of relapse or if they have had two or more episodes of depression in the recent past, during which they experienced significant functional impairment. Maintenance treatment beyond 2 years should be advised for those after a thorough evaluation of clinical history, functional impairment, and risk factors. Longer duration treatment is required for those with a history of severe or prolonged episodes or if the consequences of relapse are likely to be severe.

Box 4: Factors affecting risk of relapse and decision to continue antidepressants

- Presence of residual symptoms
- Higher number of previous episodes of depression
- Longer episode duration
- More severe episodes of depression
- Functional impairment during episodes
- Higher degree of treatment resistance
- Shorter intervals between episodes of depression
- Concurrent physical health problems
- Psychosocial difficulties
- Disability, related to medical illnesses

The World Federation of Societies of Biological Psychiatry's treatment guidelines for depression also recommends that the continuation phase of treatment lasts at least 6 months following remission of acute symptomatology.² Treatment should be prolonged to 9 months in patients with a history of long previous episodes and should continue even longer in cases of residual symptomatology and until such symptoms have subsided and in those with psychotic depression. The British Association for Psychopharmacology advises 6 to 9 months of continued treatment after remission in patients at a lower risk of relapse, e.g. first episode without other risk factors and to consider a treatment duration of at least 1 year in patients with an increased risk of relapse.³ In higher-risk patients (e.g. more than five lifetime episodes and/or two episodes in the last few years), treatment for at least 2 years if not longer-term treatment should be considered. Consider long-term treatment in the elderly as this reduces the risk of relapse by half. A pragmatic approach would be to actively involve the patient in the decision making process with regular monitoring of mental status, side effects, risk factors, physical health, and psychosocial well-being. It is always important to clarify that long-term antidepressant treatment reduces the risk of relapse and that antidepressants are not addictive, thereby supporting and encouraging patients, who have benefited from being on an antidepressant, to continue it. Discuss about advanced decisions and advanced statements in those with a history of severe depression, especially if treated under the Mental Health Act.

Psychological Interventions

Psychological interventions such Cognitive as Behavioural Therapy (CBT), Inter-Personal Therapy (IPT), and Problem Solving Therapy (PST) are all equally effective in older and younger adults with depression.^{24,25} However, CBT has the most substantial evidence in support of its effectiveness. The influence of physical diseases, frailty, and cognitive impairment on the efficacy or feasibility of psychotherapy has not been assessed in high-quality studies.1 People with depression have negative automatic thoughts arising from dysfunctional beliefs. CBT aims to identify and modify these thoughts, thereby bringing about a change in their mood and behaviour. In the elderly, cognitions associated with physical health, role changes, losses, and transitions might have added significance. Adaptations suggested in the elderly with cognitive slowing include presenting information slowly with frequent repetitions and summaries, presenting information in alternate ways and encouraging patients to take notes, and presenting new information in the context of previous experiences.²¹

IPT works on the premise that there exists a reciprocal relationship between interpersonal relationships and mood, and resolving interpersonal conflicts results in improvement of mood and vice versa. IPT views interpersonal difficulties as triggers for depression. It recognizes four categories of interpersonal difficulties associated with the onset and persistence of depression as IPT problem areas: grief, disputes, life changes, and loneliness/social isolation.²⁷

Problem Solving Therapy (PST) helps people to find the best possible solution to current and everyday problems and teaches them the skills to help solve future problems. PST involves various steps such as problem orientation, problem definition, generation of solutions, evaluations of solutions, selection of the best possible solution and solution implementation, and evaluation. It uses a hands-on approach using discrete, easily taught steps to solve problems, and is very appealing and practical.²⁸ Individual CBT should be offered to those with depression who are considered to be at significant risk of relapse, to those if they have relapsed despite antidepressant medication and to those with residual symptoms despite treatment.

Mindfulness-based cognitive therapy can be offered to those who are currently well but have experienced three or more previous episodes of depression.⁴ Psychological and behavioural treatments should be administered by appropriately trained practitioners using relevant treatment manuals.³ Combined psychological therapy and pharmacological therapy is more effective than psychological treatment alone for older people with depression.²⁵

Prognosis of late-life depression

Morbidity and mortality are increased in the depressed elderly due to medical comorbidities and poor physical health.²⁹ One-third of all elderly patients who are treated with an antidepressant medication achieve remission. Using a sequential treatment protocol, 96.3% achieved a response and 84% achieved complete remission within 3 years of treatment.^{30,31} It was found that greater depressive symptom severity and longer duration of the depressive episode at baseline predicted poor recovery. The elderly have more medical comorbidity and more previous depressive episodes, both of which adversely affect the outcome, and the relapse rates appear higher than in younger subjects.³² The relapse rate of depression in the elderly within two years of stopping antidepressants is as high as 60%.^{33,34} Without adequate treatment, prognosis in older people is poor, and they have a higher relapse rate than their younger counterparts.¹ Furthermore, there is a high risk of depressive relapse in the elderly with comorbid medical illnesses.³

Conclusion

Late-life depression is an unrecognized and undertreated condition, which results in a poor quality of life. General practitioners and non-specialists have a major role to play in identifying those with depression who present to them for physical problems and may often be reluctant to acknowledge mental health problems and seek help. Nonspecialists should be sufficiently skilled in the following aspects: screening questions to ask those with suspected depression, appropriate history taking, psychiatric evaluation, and planning of the treatment. The treatment approach should be multimodal; encompassing biological, psychological. and social interventions. Special when precautions should be taken prescribing antidepressant medications in the elderly.

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Research article

Neuropsychiatric patterns in cerebral amyloid angiopathy and psychiatric presentations in old age: a short report

Raghavakurup Radhakrishnan, Rommel Dawith, Robert Mitchell, Ann Boston, Philip Howard

Abstract

Background: Cerebral amyloid angiopathy (CAA) is diagnosed in various settings including stroke units, memory clinics and geriatric psychiatry. CAA is also observed in community dwelling populations. Clinical presentations including neuropsychiatric presentations were described in the last two decades. Various neuropsychological manifestations have been described which include impairment in perceptual speed, episodic memory, semantic memory, attention and executive function and global cognitive impairment. Neuropsychological manifestations included a new manifestation of high impulsivity, in addition to organic personality change, and depression. Objective: To explore neuropsychological impairments and psychiatric manifestations observed in CAA patients. Methods: Review of case notes. Results: Impairment in memory, organic personality change and depression are some of the key features of psychiatric manifestation of CAA. Conclusion: While CAA remains underreported in psychiatry, there is a possibility of a neuropsychological profile for CAA.

Key words

Amyloid Angiopathy, Neuropsychiatry, Neuropsychology

Introduction

Cerebral amyloid angiopathy (CAA) is a neurovascular disease characterised by b-amyloid fibrils deposited in the walls of cerebral blood vessels.¹ CAA is diagnosed in various settings including stroke units, memory clinics and geriatric psychiatry. CAA is observed in community dwelling populations as well.² Risk factors in the development of CAA include age³ and a genetic factor, apolipoprotein E alleles.⁴ Neuropsychiatric clinical presentations include symptomatic intracerebral haemorrhage, cognitive impairment and dementia, rapidly progressive cognitive and neurological decline, and symptoms.⁵ transient neurological Various neuropsychological manifestations have been described which include impairment in perceptual speed, episodic memory,⁶ semantic memory, attention and executive function and global cognitive impairment.⁷ In one study patients exhibited significant deficits in language, processing speed and executive and memory functions compared to a control group, but were not different on attention and praxis domains.⁸ Studies showed that naming was the most impaired process, followed by processing speed, executive functioning, memory and attention.⁸ This pattern of frontal cognitive dysfunction was already highlighted in the CAA population.⁹

Currently there are no studies that address the psychiatric manifestations of CAA in a systematic way. We report a case series describing neuropsychiatric manifestations of four cases of CAA presented to a geriatric psychiatric unit.

Informed consent was obtained from patients who had mental capacity; or consent from next of kin in patients who did not have mental capacity or who have died.

Case 1

A 77 year old male with a background of paroxysmal atrial fibrillation presented with headache, drowsiness and left visual inattention. His computerised tomographic (CT) head scan showed a right temporal lobe acute intra parenchymal haemorrhage. A Magnetic Resonance Image (MRI) brain scan later showed a right temporal lobe residual haematoma with background evidence of amyloid angiopathy (Figure 1a) on susceptibility weighted imaging (SWI) and with T2 weighted imaging showing evidence of an evolving cortical haemorrhage in right temporal lobe (Figure 1b). On follow up he developed temporal lobe focal seizures. He was initiated on levetiracetam. There was also evidence of cognitive decline [Addenbrooke's Cognitive Examination (ACE III) score was 71/100]. He was referred to psychiatry for depression and poor sleep; with a history of inadequate response to citalopram. There were no delusions or hallucinations; and the past psychiatric history was unremarkable. The seizures were only partially controlled by levetiracetam and it had the potential to cause depression. Hence, levetiracetam was cross-titrated with carbamazepine and stopped. Citalopram was switched to mirtazapine. Following this, depression markedly improved and seizures abated.

Figure 1a: Cortical microhaemorrhages



SWI image (minimum intensity projection) showing innumerable peripheral foci of low signal consistent with extensive old cortical microhaemorrhages.

Case 2

A 74 year old female with a background history of hypertension, ischemic heart disease presented with low mood, tiredness and inability to cope with recent stressful situations. Collateral information suggested changes in her personality over the last three to four years. Mental state examination showed low mood, no psychotic features and judgment was intact. She scored 90/100 in ACE III. On neuropsychological testing her attention, concentration and processing speed were below expectations. There was a significant decline in impulse control and cognitive flexibility. The pattern of results also indicated that she struggled to freely recall unstructured information and became overwhelmed with complex tasks. MRI imaging one year apart showed multiple bilateral foci of susceptibility in the cerebral cortex suggestive of amyloid angiopathy (Figure 2a and 2b). MRI also showed moderate small vessel ischaemic disease in the deep cerebral white matter. She was stabilized with mirtazapine 45mg, quetiapine 100mg and clonazepam 500mcg. She showed improvement in impulsivity, sleep, appetite; and became euthymic with no somatic complaints.



T2 weighted imaging showing evidence of an evolving cortical haemorrhage in the right temporal lobe (high T2 signal centrally with a low T2 signal rim









This is a susceptibility weighted image (SWI) that is used to detect evidence of prior haemorrhage. The haemorrhages show discrete foci of low signal. This imaging demonstrates at least three small cortical microhaemorrhages (3 are arrowed). There is also extensive low signal in the basal ganglia and choroid plexus consistent with calcification.

Case 3

An 80 year old female with a background of mastectomy for breast cancer and Hashimoto thyroiditis, presented with intermittent confusion, fixed false beliefs, and auditory and visual hallucinations complicated by anxiety and agitation. This culminated in an attempt to jump out of a moving car. Assessment in psychiatric unit showed delirium secondary to urinary tract infection. A brain CT showed extensive calcification within the basal ganglia and cerebellum and mild small vessel white matter ACE III score was 78/100 on ischaemic change. admission but improved to 86/100 before discharge. A lumbar puncture revealed no growth with normal protein and glucose levels. An MRI brain revealed punctate foci of susceptibility within the cerebral hemispheres peripherally in keeping with cerebral amyloid angiopathy (Figure 3a and 3b). ACE III was 83/100 and 79/100 three months later. She was treated with a small dose of risperidone and discharged home after her symptoms improved. On follow up, she developed further episodes of intermittent confusion, apathy and decline in memory. She died suddenly about six months after discharge.



SWI imaging showing at least three further cortical microhaemorrhages (3 arrowed).

Case 4

An 81 year old migrant female French language teacher presented with subjective retrieval deficits for French words five years ago. Her medical history included paroxysmal atrial fibrillation, hypertension and breast carcinoma. Her CT scan was within normal limits. On the ACE III she had 96/100 and diagnosed as amnestic mild cognitive impairment. A year later, her ACE III score dropped to 86/100. To minimise any possibility that anastrozole may be contributing to her memory impairment, this was discontinued and her ACE III score improved to 91/100. Six months later she presented with a sudden onset ataxia and double vision. On MRI scan there were T2/FLAIR high signal foci within the periventricular and deep white matter, representing small vessel ischaemic change and numerous foci of susceptibility artefacts within the cerebral parenchyma with a cortical and subcortical distribution predominately at the cortical grey-white junction. Appearances were in keeping with amyloid angiopathy. She currently presents to psychiatry with intermittent performance anxiety mainly centred on her deficits although she continues to work as a French language teacher. She has declined psychotropic treatment but receives intermittent counselling.

Discussion

In our case series we could not demonstrate histopathological confirmation of CAA. However, these cases all met the modified Boston radiological criteria¹⁰ for probable CAA. MRI findings in these cases (see figures) all include multiple old haemorrhages or varying size within lobar, cortical, or subcortical regions. Case demonstrated an evolving sub-acute one intra parenchymal macrohaemorrhage within the right temporal lobe but multiple factors could have contributed to his depression. The personality changes in case two may be associated with the CAA. There was executive dysfunction and exacerbation of premorbid poor impulse control was a prominent feature in her. Case three demonstrated intermittent confusion, executive dysfunction and loss of memory. Multiple etiological factors are possible in this case and CAA may be an additional factor contributed to her presentation. Case four demonstrated mild cognitive impairment and performance anxiety. CAA could be a factor contributed to her presentation. Identification of CAA was important when considering treatment methods including medications.

Psychiatric presentations are uncommon in CAA. These four cases show the importance of investigating for CAA in psychiatry settings. Psychiatrists need to be aware of CAA, particularly in the older population. In our series, two cases had depression, but it is difficult to ascribe causality, due to multiple comorbidities in these cases. The spectrum of clinical symptomatology is mainly neurological as well as cognitive decline.¹¹ Due to CAA being a chronic progressive illness of the central nervous system, the development of gradual psychiatric symptoms as the disease progresses is conceivable, especially in the first stages of CAA, which do not show typical, more overt clinical signs of intra cerebral bleeding or other neurological symptoms such as epileptic seizures. In case two, the patient developed organic personality change and/or exacerbation of pre-morbid personality traits in around four years. There are no attributable reasons for her personality change other than CAA. The possibility of personality change due to CAA is mentioned in literature but not substantiated with studies.¹² There was a case report of hereditary form CAA with personality change.¹ Our case is a sporadic one. Taking into account that dementia and neurodegeneration are frequently associated with behavioural problems and/or personality change¹³⁻¹⁴ it seems plausible that CAA may also cause these clinical syndromes, although this connection has not yet been studied in a systematic way.

Our study also highlights the importance of MRI scanning in psychogeriatric population to identify cases with CAA. A caveat regarding psychiatric presentation is that in patients with suspected CAA, MRI positivity might be incidental, given that the incidence of asymptomatic CAA at autopsy in healthy aged subjects is up to 50%.¹⁵

Table 1.Psychiatric presentations and neuropsychological findings							
Case	Neuropsychiatric presentation	Neuropsychological findings	Neuropsychological test				
Case 1	Cognitive impairment Focal temporal lob seizures Depression	Poor concentration	ACE III ¹				
Case 2	Depression Organic personality change	Poor cognitive flexibility Decreased processing speed Impaired free recall Impaired executive function Accentuation of poor impulse control	ACE III ¹ DKEFS ² Colour word interference test; tower, twenty questions, trail making WAIS ³ IV				
Case 3	Delirium Cognitive impairment	Apathy Impaired memory Impaired executive function	ACE III Qualitative observation				
Case 4	Cognitive impairment Anxiety	Performance anxiety	ACE III Qualitative observation				
1 Addent	brooke's cognitive examination						

2 Dells Kaplan Executive function system colour word interference test

3 Wechsler's adult intelligence scale

Neuropsychological manifestations (Table 1) in our series include cognitive impairment, organic personality change, depression, anxiety, focal temporal lobe seizure and delirium. Cognitive impairment is a well described manifestation in CAA⁸⁻⁹ Three of the four cases presented here also showed cognitive impairment. Other neuropsychological issues demonstrated in these cases include accentuation of poor impulse control, impaired concentration, poor cognitive flexibility, reduced processing speed, impaired free recall, reduced executive function and apathy. All these disturbances were described in previous studies,^{5,7,13} though there are no reports of organic personality change in sporadic cases or accentuation of poor impulse control. Dementia in Alzheimer's disease was considered as a differential diagnosis, but none of these cases met the criteria.

Neuropsychiatric presentations of CAA varies and various overlaps with Alzheimer's dementia and other age related pathologies exist regarding the aetiology of cognitive functional disorders, which impede unambiguous identifications of an aetiological participation of CAA, studies suggest that CAA may very well be a cause of cognitive impairments.^{16,17} It seems that mainly perceptual speed and episodic memory are cognitive domains typically impaired by CAA, even taking into consideration the influences of Alzheimer's dementia and other potential covariates.⁶ In Case 2 we noted decreased processing speed and impaired free recall and Case 3 showed impaired memory which goes well with available evidence. One of our cases showed organic personality change and depression. These may be brought by these neuropsychological processes impairment³. Otherwise, a pathognomonic clinical picture of CAA does not exist. Depression, organic personality change and behavioural problems are plausible clinical manifestations of CAA that may accompany typical neurological presentations.

Conclusion

The clinical spectrum of CAA continues to grow. Despite remarkable recent interest, CAA remains underrecognised by neurologists and stroke physicians.⁵ Awareness needs to be created among psychiatrists to recognise cerebral amyloid angiopathy as a possible contributor of psychiatric presentations. More studies and insight are needed in demonstrating psychopathology, psychiatric manifestations and its relation to CAA.

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Case Report

Ventricular bigeminy after electroconvulsive therapy: a case report

Aakash Rai, Lisa Blissitt

Abstract

Electroconvulsive therapy (ECT) is an effective tool for treatment resistant depression. In this case report we highlight the case of an elderly Asian patient who developed ventricular bigeminy immediately after his 19th session of ECT. Electrocardiogram (ECG) variations including T wave and ST segment changes have been reported in the literature post ECT. However this case offers various learning points; ventricular bigeminy occurred within 1 hour and there was a discordance between the clinically palpated pulse by nursing staff and the rate on the ECG. These changes were also transient and did not occur again in subsequent sessions of ECT. Reassuringly these ECG changes are commonly benign, and ECT remains a safe choice of treatment even with those with cardiac dysfunction. However, awareness of the effects of ECT on the heart, specifically the ECG changes is important and should be recognised by both the psychiatric and anaesthetic team.

Key words

Catatonia, Depression, Electrocardiogram, Electroconvulsive Therapy, Pulse Deficit, Ventricular Bigeminy,

Introduction

of There have been several reported cases electrocardiogram (ECG) changes following electroconvulsive therapy (ECT). In particular, sinus arrhythmias, ST segment changes and changes to T waves such as inversion and flattening have been reported.¹⁻³ Furthermore, changes suggestive of Wolf Parkinson White have also been highlighted.⁴ We present a case of a patient who experienced ECG changes consistent with ventricular bigeminy following ECT session.

ECT is an effective intervention for treatment resistant psychiatric disorders including severe depression, catatonia and prolonged manic episodes.⁵ It is accepted as a low risk intervention, being suitable to be given to patients even with severe cardiac disease.⁶ The exact mechanism of ECT is still unknown, with numerous

biological, psychological and psychoanalytical theories proposed. 7

Ventricular bigeminy is described when every normal sinus beat is followed by a premature ventricular complex (PVC); thus, every second beat is repeated as a PVC.⁸ This occurs when there is premature ventricular depolarisation and hence contraction of the ventricles due to electrical impulses from the ventricular myocardium.⁹ As these impulses are not originating from the atrioventricular node, they have an unusual ECG waveform. The slow ventricular conduction leads to a wide QRS complex,¹⁰ with discordant ST segment and T-wave changes.¹¹ In ECGs with fixed coupling (where there is a constant time interval between the sinus beat and PVC), this can be indicative of the sinus beat controlling the PVC via a re-entry mechanism,¹² or other causes.

PVCs can be seen in patients with cardiac disease such as infection, ischemia and inflammation. Electrolyte imbalances, stress states such as hypoxia or surgery and substances such as caffeine, alcohol and tobacco can also all lead to PVCs. Furthermore, autonomic stimulation can lead to the production of PVC's.¹³

In the majority of patients, PVCs are benign with no intervention needed. Treatment is reserved to those with symptoms or with haemodynamic compromise and includes different classes of anti-arrhythmic agents or radiofrequency ablation.¹³

Case Summary

A 77 year old Asian male was admitted to an old age psychiatric unit with severe depression with catatonic symptoms including being mute and loss of motor movements. He had 19 sessions of ECT with limited response. Following the 19th session, it was noted he had become bradycardic. An ECG was performed which showed ventricular bigeminy with several ectopics with a heart rate (HR) of 104 and QTc of 520 (figure 1). These changes were not present on a previous ECG, which was sinus rhythm. Bloods including urea and electrolytes, thyroid function tests, phosphate, magnesium, calcium were all done and were normal.



The ECG was subsequently repeated the following day, where the aforementioned changes had gone (figure 2). Prior to the patient's next session of ECT, ECGs were repeated pre and post procedure which showed no acute changes.

The patient had an extensive cardiac history. He had ischemic heart disease requiring percutaneous intervention on two occasions; this has led to impaired left ventricular function. He had also had an incidental finding of a previous subcortical infarct on routine magnetic resonance imaging (MRI) scan during his admission. His other past medical history included hypertension and hypothyroidism. He was a non-smoker.

The patient's medications were as follows: diltiazem hydrochloride 120mg BD, atorvastatin 10mg, clopidogrel 75mg OD, thiamine 100mg BD, cholecalciferol with calcium carbonate 1tablet OD, Senna 15mg ON and macrogol 3350 with potassium chloride, sodium bicarbonate and sodium chloride 1 sachet BD. During his inpatient stay, he was commenced on mirtazapine 30mg ON, venlafaxine 187.5mg OD, diazepam 2mg BD and diazepam 1mg ON. Diazepam was stopped during the ECT.

The patient continued his course of ECT for 24 sessions, with a limited clinical response. There were reports of days where his catatonic behaviour improved however this was never for a prolonged period of time. He was therefore trialled on the mood stabiliser lamotrigine, after ECT, with minimal response. It was therefore concluded that this would be the patient's new clinical baseline and he was discharged back to his home. He had a good family support network and was also given home treatment team input on discharge.

Discussion

There were several aspects of the case that highlight key learning points. The ECG changes that occurred were immediate, and resolved after 24 hours without further reoccurrence; this is contrary to the reports in literature.² Furthermore it highlights the importance of ECGs in quantifying heart rates; the patient's pulse was reported as bradycardic, whereas this did not match the heart rate of 104 on the ECG. This was likely to be due to non-conducted pulse associated with the premature ventricular contraction (PVC), this difference in heart rate and pulse rate is the pulse deficit.¹³

Several studies have looked at the effects of ECT on the cardiac system. A triphasic autonomic change has been noted during and after ECT, with an initial parasympathetic, then sympathetic and then finally parasympathetic The initial drive occurring. parasympathetic dominance has been hypothesised to be due to the rapid onset of the parasympathetic neurotransmitter acetylcholine relative to the sympathetic neurotransmitter noradrenaline.¹⁴ The resulting seizure ECT and its associated adrenomedullary from catecholamine release has also been thought to be linked to the sympathetic response.

Studies have shown the incidence of premature ventricular complexes post ECT, with one study looking at the elderly noting a statistically significant rise in bigeminy/trigeminy 24 hours post ECT. There was however no change within 1 hour of ECT.²

Research into QT dispersion (QTD and QTcD), which is thought to be a marker of cardiac electric inhomogeneity,⁸ was noted to be higher in the elderly relative to the young post ECT.¹⁵ It was concluded that the older population were therefore at an increased risk of ventricular arrhythmias due to increased heterogeneity of ventricular depolarisation.¹⁶ However, the potential for ventricular arrhythmias was subsequently found to not be due to repolarisation abnormalities.¹⁷

Furthermore, this patient's ECGs were subsequently performed pre and post ECT for the next rounds which were all normal. The transient cardiac changes which subsequently resolved suggest these changes were secondary to ECT on the background of cardiac disease; this has been previously hypothesised to be due to an increased sympathetic drive.¹⁸

Conclusion

This is an interesting case of an elderly patient with ECG changes post ECT. This case highlights the importance of careful history taking to understand the risk of potential ECG changes. We are reassured that these ECG changes are often benign with no clinical significance and no detrimental effects.¹ However, recognition is important to ensure suitable management and follow up if necessary; this patient was seen by the cardiology department where an ECHO was organised in view of his physical health comorbidities. In addition, highlighting causes of discrepancies in clinical observations will aid in improvement of patient care. The definitive measurement of heart rate is to do an ECG, with the added benefit of the identification of the electrical activity of the heart. Thus, if following ECT a patient becomes unwell or develops changes in the physiological parameters of their observations, care should be taken to thoroughly examine the patient. This is to potentially identify any physical health problems and seek help or advice from the medical team if deemed necessary.

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Insight

Risks to the elderly during the coronavirus (COVID-19) pandemic 2019-2020

Natalie Rout

Abstract

With an ageing population in the UK, the risks to the elderly during the COVID-19 pandemic are not limited to the physical effects of the virus. Social isolation, deteriorating mental health, restricted access to healthcare and deprivation of necessities are but a few of the pressing concerns. This article describes the perspectives of a GP in Central London.

Key words

Coronavirus, COVID-19, Older Adults, Pandemic, Risk Factors

As a GP in Central London, on average, I see or speak to approximately 35-40 patients a day and I am not only worried about the speed at which Coronavirus (COVID-19) is spreading, but also the impact it will have on the way I am expected to practice and look after these patients.

It is no surprise that the UK has an ageing population. As of 2018, there are almost 12 million people over the age of 65 in the UK.¹ It is now well established that those over the age of 70 and with co-morbidities are at the greatest risk of complications from COVID-19 infection.²

These physical complications are of course at the centre of my concern as this pandemic unfolds. However, as a primary care practitioner, it is clear that there are several more concerns that have arisen as the self-isolation and social distancing guidance escalates. Not only have I realised that I will be continuing my ongoing role in balancing both the physical and mental well-being of my patients, but also addressing the mass panic and hysteria that has swept the nation, if not, the globe.

Let us discuss fear. Fear can be defined as an unpleasant emotion that is a response to the threat of danger, pain or harm. We have seen over the last few weeks that fear has spread as quickly as the virus itself and this can be partially attributed to the uncertainty surrounding our knowledge of COVID-19, but it is also thanks to the constant availability of unverified information at ones fingertip. It is almost impossible to protect the population from this epidemic of anxiety when false information is circulated so rapidly. I've had patients eating raw garlic daily, panicking if they haven't been drinking sips of water every 15 minutes and turning the heat up in their homes in frantic attempts to prevent COVID-19 from successfully invading their homes and bodies.

My next concern is that of loneliness. 8 million people are living alone in the UK and 48% of those are over the age of 65.1 Social distancing will only intensify the feeling of isolation which already greatly impacts on a person's mental health and this could easily spiral into depression. Social isolation in itself, both actual and perceived, has been associated with an increased risk of premature death.³ Our mental health services are already overwhelmed with an national average waiting time for talking therapy of 5 weeks with 11% of patients waiting for longer than 12weeks.⁴ Certainly in my CCG (Clinical Commissioning Group), there is a waitlist of this length which becomes a barrier to people in need of accessing treatment, but this waiting time is due to become more prolonged with the reduction in face to face consulting secondary to social isolation escalation from the government. How are we going to support these rising cases of anxiety and depression secondary to isolation?

Are we providing preferential treatment to the young? In order to reduce the risk of spread of COVID-19, GP surgeries in the UK have switched to telephone or video consulting of their patients and are actively avoiding face to face consultations where possible. Whilst the digital age allows us to do this quite effectively, there are concerns that we are restricting online consulting to those who own smartphone or internet enabled devices and many of our elderly patients do not. The Ofcom 2019 Online report states that over a third of 65-74 year olds are not using the internet and have no intention of getting online.⁵ Whilst technology is allowing us to reduce the risk of transmission of COVID-19, it may well be alienating the people in our society who arguably require the most help.

Another issue that has been breaking headlines is that of stock piling. The elderly have been left gazing at empty shelves in supermarkets just as they are advised that they should ideally be self-isolating for the next 12 weeks. With approximately 4 million people over the age of 65 living alone, this huge number of people who are the most vulnerable are unable to access the nutrients they require to survive without relying heavily on support from others. Many elderly patients do not have the finances to buy enough food to last them for this amount of time. Whilst self-preservation is a natural response that is inbuilt in human psyche, we appear to have lost our humanity as a society and have left the most vulnerable without the security of nutrition.

This leads me onto my final concern of social responsibility. Many of the younger population have chosen to ignore the advice being given by the government about exercising social distancing. Perhaps it is the underestimation of the speed of spread of the virus or perhaps it is the assumed lack of physical complication in young people. Regardless of the reason, yet again, those that are harmed are the elderly as they are visited by their careless family members or exposed to infected individuals as they step outside their homes.

Despite the lack of resources available in the NHS currently, there are several charities e.g. MIND, Samaritans, that are working tirelessly to support the increased burden of mental health on the system. There are also numerous charities and volunteers aiming to ensure that the elderly do not go hungry as they fear to leave their houses or find that the shelves are empty e.g. Age UK. This pandemic has brought a number of concerns about our ageing populations to the forefront of primary care and only time will tell if we overcome it.

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Short report

Brief quality of life measure in Marathi for persons with mental illness: translation of Recovering Quality of Life (ReQoL)

Ganpat Kodarbhai Vankar, Parisha Narayan Kelkar, Pradeep Shriram Patil, Nilamadhab Kar

Abstract

The Recovering Quality of Life (ReQoL) scale was translated and validated in Marathi, one of the major Indian languages, by a team of mental health professionals at Datta Meghe Institute of Medical Sciences, India. The standard process of translation was followed which involved forward and back-translation, pilot-testing involving patients, review and reconciliation steps. The translated Marathi version of ReQoL was considered acceptable. The process of translation and the linguistic issues encountered during the process are discussed.

Key words

English, Linguistic Validation, Marathi, Quality of Life, ReQoL, Translation

Introduction

World Health Organisation (WHO) defines Quality of Life as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, personal beliefs, social relationships and their relationship to salient features of their environment.¹

There are few generic scales available in Indian language measuring QOL,²⁻⁴ including the generic WHOQOL-BREF scale in Marathi version; however, we are not aware of the data on reliability and validity of Marathi WHOQOL-BREF in psychiatric patients. There are some disease-specific QOL scales for example Quality of Life Scale (QLS) for schizophrenia which have been adapted to Indian setting.⁵⁻⁷ To our knowledge, there was no simple, short QOL scale in Marathi for mentally ill people which can be used across various diagnoses; and there is clearly a need for such a QOL scale for psychiatric patients.

Recovering Quality of Life (ReQoL) scale has been recently developed in the UK for use in psychiatric set

up.⁸ It is a brief patient-rated scale to assess the QOL of people with mental illness, aged 16 and above. ReQoL is available in two versions, i.e. a brief 10-item measure and a 20-item measure.⁹ The brief 10-item ReQoL has been now translated to Hindi, Odia, Tamil, Kannada and Malatyalam, which have been pilot tested for persons with mentally illness.¹⁰⁻¹⁴ It was intended to undertake translation and linguistic validation process of ReQoL to Marathi language, to make it available for the clinical use for the persons with mental illness.

Marathi is the official language of the state of Maharashtra and co-official language in the state of Goa situated in Western India. It is one of the 22 scheduled languages of India. At 83 million speakers in 2011, Marathi ranks 19th in the list of most spoken languages in the world. Marathi has the third largest number of native speakers in India, after Hindi and Bengali based on the information from the office of registrar general, India.¹⁵

Methodology

The Marathi translation from English was carried out adhering to the standard procedure (Translation and Linguistic Validation Process) as suggested by Oxford University Innovation.¹⁶ The translation team included incountry investigator, co-investigators, four independent translators and a proof-reader based at Datta Meghe Institute of Medical Sciences, Sawangi (Meghe), Wardha District, India. All the members were bilingual (Marathi/English). The translators were requested to focus on conceptual equivalence, neutral wording and phraseology that incorporated cultural nuances.

Five patients participated in the pilot-testing phase. Mother tongue of all the patients in pilot study was Marathi; they primarily read, write and speak in this language. All of them had education in Marathi medium, but they also knew Hindi and English as they were compulsory subjects but at a lower level.

Results

The translation process and various issues encountered during the study are described here stepwise.

Tab	Table 1: Sample profile for the pilot testing								
No	Sex	Age	Education	Diagnosis	ReQoL / Physical item Score	Comments about Marathi version			
1	Male	27	Higher Secondary	Generalized Anxiety Disorder	22 / 1	In general easy. I have not heard the word, <i>'aksham'</i> though I know the meaning of <i>saksham</i> (opposite to <i>aksham</i>)			
2	Female	43	Higher Secondary	Depression in partial remission	12/3	Simple and easy to respond			
3	Male	55	College Diploma	Bipolar Disorder, Depressed	14 / 2	Easy to comprehend, though it was an effort to fill it up, perhaps because i feel sad, having low energy			
4	Male	41	Master of Arts	Major depression	20 / 1	Easy to understand, reflected many of my day to day difficulties			
5	Female	28	Bachelor of Arts	Generalized Anxiety Disorder	29 / 0	Easy items in Marathi			

Step 1: Forward translation:

Forward translation into Marathi was done independently by two translators and there was no difficulty. The items describing the theme of 'Quality of Life' are commonly understood in the Marathi speaking population.

Step 2: Forward translation reconciliation process:

Reconciliation process following forward translation showed that literal translation of item 3 (I felt unable to cope) was difficult to translate in Marathi. The original questions put the onus on the patient. It is the patient who could or could not cope. Translation turned it around to the inability to control the circumstances making the patient unable to cope. Following discussion, in the reconciled version the focus was re-established to the patient. Specifically for item 3, it was felt 'I was unable to cope' did need a specifier e.g. 'not able to cope what'. Hence it was decided to provide a specifier '*jivana til ghadamodi cya*' (life situations) to make it more comprehensible and clear.

The word 'problem' (*samasya*) should be added to each option for the last question about the physical health. This addition was relevant and did not alter any meaning of the questions, so it was added.

Step 3: Back translation of reconciled version:

Translators had following difficulties in various items of the questionnaire. In the item 1, it was difficult to understand and conceptualise the phrase 'to get started'; in the sense 'what was difficult to start'. This difficulty was overcome by adding words 'daily work' (*roj cha kama chi*). This problem seemed to be a colloquial rather than conceptual. There was a similar issue with item 7. The item was translated as 'Whatever I did, I enjoyed' (*Mi je kele. Mi anandi aahe*) rather than 'I enjoyed what I did'. In the item 3: The word 'cope' was difficult to translate in Marathi. The translation conveyed that the patient found it difficult dealing with daily hassles. Hence it was translated as 'dealing with problems' with 'mala jivana til ghadamodi chya saamna karnat aksham vatle'. Other items were translated back exactly as the original one.

Step 4: Pilot testing:

Pilot testing was conducted with 5 bilingual patients. During this process, they found most of the items easy to understand and were able to complete the scale in about 4-5 minutes. Their responses are summarised in table 1.

Step 5: Review after pilot testing:

In the opening statement the Marathi word for "unable" (*aksham*) was difficult to understand by one of the five subjects. There were no change however as majority understood the meaning accurately.

Following the review by the translators the translated Marathi version of ReQoL was considered acceptable.

Step 6: Proof reading:

It was proof-read by a Marathi language scholar, who observed no further changes required.

Conclusion

Marathi version of ReQoL scale is an acceptable for Marathi speaking patients with mental illness. The process of translation was easy; the difficulties were minor reflecting the semantic and colloquial differences of two languages rather than conceptual problems. This shows the cultural/linguistic neutrality of the scale. It is recommended that the Marathi version of ReQoL should be validated in a larger sample of psychiatric patients with various diagnoses.

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Review

Managing mental health issues among elderly during COVID-19 pandemic

Ritika Girdhar, Vivek Srivastava, Sujata Sethi

Abstract

Background: The unprecedented crisis of the COVID-19 pandemic has sent waves of anxiety and panic throughout the world. The infection does not seem to spare any age group but the elderly are at a higher risk. Aim: This article reviews the mental health issues faced by elderly due to enforced social isolation and various methods to mitigate the adverse effects of social isolation. Method: Relevant literature search on the theme of elderly, pandemic, COVID-19, social isolation was perused. **Results:** Elderly population is the most vulnerable group for coronavirus disease. Besides the infection, social isolation and quarantine puts them at a high risk category for various physical and mental health problems. Pandemic may cause exacerbation of existing or relapse of fears/phobias, anxiety disorders, obsessive-compulsive disorder. It may have catastrophic personal experiences leading to posttraumatic stress disorder. Various measures such as social facilitation interventions, psychological therapies, health and social care provision, befriending interventions and leisure skill development can be helpful in mitigating mental health consequences during isolation. Promoting sense of physical and social safety, hope, connectedness, calming and community efficacy have been found to be effective in controlling or mitigating the potential adverse effects of social isolation. Conclusion: During the COVID-19 pandemic, it has becomes essential that elderly are isolated and social distancing is enforced to keep them safe and protected. Besides the threat of contracting coronavirus infection, social isolation itself could be a source of anxiety and other psychological problems. It is important that health professionals are aware of these issues and become proactive in instituting measures to mitigate the adverse effects of social isolation.

Key words

COVID-19, Elderly, Mental Health, Pandemic, Social Isolation

Introduction

The unprecedented crisis of the COVID-19 pandemic has spread throughout the world affecting almost all

countries, with rising levels of anxiety among affected and unaffected nations. Most nations have resorted to quarantine, lockdown and curfew to contain the community transmission of infection. All these techniques warrant people in the community to stay at home and maintain social distancing.

As is the case with most infectious diseases, older adults are the most vulnerable group. In this scenario, they are expected to adhere to these restrictions for extended periods, to minimise the risk of contracting the infection.

However, these safety measures pose a risk of social isolation. Visiting community meetings, parks, neighborhood, places of worship and day centers are possibly the only socialization channels for most of the elderly. With lockdown or quarantine these are now not possible. Elderly who live with their families are better placed in this respect; but some of them may still expected to maintain social distancing within their house considering their own existing ailments or COVID symptoms of family members. As younger generation may be busy with various chores, it is quite possible that the elderly may get neglected even when they are with their families. This leads to social and psychological isolation, which may be a contributing factor for poor mental health.

Most preventive measures during infectious disease epidemics focus on prevention of the spread of infection and looking after the physical health of infected person. In this state of crisis, a wide range of psychological problems often accompany the outbreak. Social isolation and loneliness are particularly problematic in old age due to various reasons such as: decreasing functional limitations, economic and social resources, the death of spouse and relatives, changes in family structures and mobility.¹ Lockdown adds more reasons to this list including: inactivity, repeated exposure to disturbing news related to the pandemic, reminiscences of previous traumatic events (and anxiety associated with those), the interactional problem within family members, and the lack of opportunities to share their worries. Confinement, loss of usual routine, and reduced social and physical contact with others are frequently shown to cause boredom, frustration, and a sense of isolation from the rest of the world, leading to distress.^{2,3,4}

Box 1: Effects of COVID-19 on elderly

New onset symptoms

- * Fear of contracting infection (self and/or family)
- * Fear of death (self and/or family)
- * Fear of separation from family
- * Insomnia
- * Nightmares
- * Generalized anxiety symptoms
- * Depressive symptoms
- * Compulsive hand washing,
- * Compulsive sanitizing household articles
- * Post-traumatic stress symptoms
- * Increased substance use (smoking, alcohol)

Worsening of existing conditions

Physical:

- *Hypertension
- *Angina and other cardiac issues *Diabetes

Psychiatric

*Depressive disorder *Anxiety disorder *Obsessive compulsive disorder *Post-traumatic stress disorder *Substance abuse/dependence *Neurocognitive deficits

Social isolation among older adults is a 'serious public health concern' because of their heightened risk of cardiovascular, autoimmune, neurocognitive, and mental health problems.⁵ Santini *et al* have demonstrated that social disconnection puts older adults at a greater risk of depression and anxiety.⁶ Social isolation because of a pandemic brings other psychological issues such as: fear of contracting the infection (for self and family members), fear of quarantine or hospitalization, death (of oneself or family members), fear of being abandoned, anxiety related to day to day provisions, regular health checkup visits and worries about family members living far away. Sleep and appetite problems may become more pronounced in the absence of physical inactivity during the lockdown.

Quarantine can further amplify these problems. Separation from loved ones, the loss of freedom, uncertainty over disease status, and boredom can, on occasion, create dramatic effects. Suicide has been reported, substantial anger generated, and lawsuits brought following the imposition of quarantine in previous outbreaks.^{7,8}

In the context of prolonged lockdown and social distancing, loneliness can become a core component of a variety of psychiatric disorders through a subtly or grossly declared clinical picture. It may lead to hopelessness and discouragement, which can progress to depressive disorders and potentially self-destructive acts. It may aggravate fears and precipitate one or several types of anxiety disorders, including a variety of phobic syndromes (Box 1). Also, it may generate painful memories that, later, can make the experience of social

isolation a prelude of a potentially invalidating posttraumatic stress disorder.^{9,10} Finally, it may exacerbate behavioral styles and symptoms of conditions such as obsessive compulsive disorder (e.g. washing hands repeatedly, sanitizing the household articles). Studies have revealed loneliness is associated with depressive symptoms in older age groups.¹¹

Sleep quality continues to be affected by feelings of loneliness in this age group. Sleep duration tends not to differ between lonely and non-lonely older adults, but the same amount of sleep is less restful and results in greater daytime fatigue and dysfunction.¹²

Gow *et al* examined cognitive functioning in a cohort of 70 years-old persons and found a significant inverse association between loneliness intensity and general cognitive ability, processing speed and memory.¹³

Mitigating adverse effects of social isolation on elderly during pandemic

There are various ways to support older adults during the social isolation period during the pandemic, which with all probability will continue for months. If elderly people are instructed and required to remain homebound, it is important to ensure that daily needs such as groceries and medications are delivered regularly, and urgent action is needed to mitigate the mental and physical health consequences of social isolation.¹⁴

Thematic analysis done by Gardiner *et al* identified six categories of interventions based on their purpose, their mechanisms of action and their intended outcomes.¹⁵ The categories were social facilitation interventions, psychological therapies, health and social care provision, befriending interventions, pet therapy, and leisure/skill development.

Tsai *et al* evaluated a video conference program which aimed to facilitate contact between an older person and their family.¹⁶ They reported lower levels of loneliness among those using video conferencing. Creating a sense of companionship and keeping occupied were found to be effective in dealing with loneliness in older people.¹⁷

Befriending interventions are defined as a form of social facilitation with the aim of formulating new friendships. The 'Call in Time' program, a national pilot of telephone befriending projects across the UK, is one of such programs. A mixed methods evaluation found that telephone projects were successful in alleviating loneliness through making life worth living, generating a sense of belonging and having a feeling of 'knowing that there is a friend out there'.¹⁸

Interventions focused on leisure activities and/or skill development were varied and included gardening programs, computer/internet use, voluntary work, holidays and sports. Higher use of the internet was also found to be a predictor of higher levels of social support and decreased loneliness.¹⁹ Indoor gardening programs for nursing home residents showed a significant positive

effect on loneliness.²⁰ Evidence from a qualitative study was useful for identifying how leisure activities reduced loneliness, for example by maintaining social contacts, spending time constructively and having interaction with others.²¹ Beyond this, cognitive behavioral therapies could be delivered online to decrease loneliness and improve mental wellbeing.²²

Use of digital platforms such as teleconferencing or videoconferencing can be used effectively to deliver these services while maintaining social distancing. However, consultation can only be given to those who can use internet enabled devices;²³ and not all the elderly use internet, e.g. in the UK over one third of old people are not using the internet and do not have intention of getting online.²⁴

Hobfoll et al identified five empirically supported intervention principles that could be used to guide and inform intervention and prevention efforts at the early to mid-term stages of global health crisis. These were: promoting a sense of safety, both physical and (avoiding rumors and psychological providing reassurance), to reduce the amplified unpleasant emotions of ongoing fear and anxiety; utilization of therapeutic elements (pharmacological, yoga, relaxation, mindfulness and other therapies) to calm down the heightened state of emotional responsiveness, which if left unattended may lead to various psychiatric disorders; instilling a sense of control and efficacy in reaching a positive outcome through one's thoughts, emotions and actions; developing a feeling of connectedness to one's group to garner security, support and love; and finally, instilling hope for a better future. These inter-related principles aim to promote a sense of control, efficacy, support and positivity and can be utilized at either individual, group or community level. 25

A triage tool has been developed by Seniors Without Families Team (SWiFT) for rapid needs assessment of vulnerable older adults with physical and mental health issues, financial problems and/or social needs. SWiFT tool is a feasible approach for rapid determination of the level of need or assistance necessary for vulnerable older people during crisis period.²⁶ Similar tools may be developed and validated in different regions depending upon the existing resources.²⁷

Further, it is important to recognize from the outset that a person's reaction should not necessarily be regarded as pathological responses or as precursors of subsequent disorder.²⁵ All health care providers involved must have knowledgebase and cultural sensitivity on the care needs of elderly; this is also required for the volunteers working in the emergency care situations.²⁶

Nevertheless, some of the older adults may experience great distress and require community support or at times clinical intervention for their mental health concerns. As such, most people are more likely to need support and provision of resources to ease their feelings, rather than traditional diagnosis and clinical treatment.²⁵

It is of paramount importance to raise awareness amongst both health-care professionals and the public about these issues and about timely intervention. More research will help; however at present we can apply what we already know.

Conclusion

Isolating the elderly during COVID-19 pandemic might reduce transmission which is important and minimize the spread of infection to high-risk groups. However, adherence to isolation strategies is likely to decrease over time. Such mitigation measures must be effectively timed and continued for required duration to prevent excessive transmission and risk of morbidity and death due to COVID-19. The effects of isolation will be felt greatest in the elderly, specifically in the more disadvantaged and marginalized populations. The implementation of preventive strategies for the negative mental health impact of social isolation should be urgently prioritized for this population.

Interventions could simply involve interaction and providing practical support for essential items, more frequent telephone contact with significant others, close family and friends. Online technologies can be used to build and maintain social support networks and a sense of belonging. Health care workers, community outreach projects and voluntary organizations have an important role providing support for elderly throughout the social isolation period.

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Research article

Socio-economic status of elderly people in rural setting of Nepal

Mahendra Raj Joshi

Abstract

Background: Ageing is an emerging issue for Nepal because of the declining fertility and mortality of the population with continuous increase in life expectancy for both sexes. It is important to understand the issue of ageing in the proper demographic and national context. Objective: The main objective of this paper was to provide some information about the socio-economic profile of elderly people living in rural area of Nepal. Methods: This is a cross sectional study carried out in 2017. In total, 547 people who were 60 years and older living in a particular rural area of Kailali district were interviewed using the structured questionnaire. Descriptive technique was used to analyze the data. **Results:** The result of this study shows majority (85.2%) of older adults reported that they were residing with their son and daughter-in-law, followed by spouse only (7.9%); and less than three percent (2.7%) respondents were residing alone. Over half of respondents (52.3%) reported that their decision making role in the family declined after they grew older. A majority of older adults (55.9%) did not attend any public meetings in the previous one year. Amongst the respondents 39.1% of males and 13.7% of females were literate; 48.4 % had owned some land; 30.2% of males and 24.8% of females were not working at the time of survey due to health problems or other causes. The majority (66.9%) of respondents were receiving the old age allowances. Conclusion: There is a need to work at a societal level to increase social and community participation of older people to prevent isolation and improving their well-being.

Key words

Ageing, Elderly, Living Arrangements, Nepal, Socioeconomic Status, Social Activities

Introduction

The living and non-living things in the world get old with time along its motion. This is the universal law of nature, whether it is a human being or other creatures, all get old with the passing of the years.¹ Elderly population is difficult to define because age sixty is usually considered the dividing line between middle age and old age. All persons aged 60 and above were considered as elderly in

the World Assembly on Ageing held at Vienna (Austria) in 1982. Similarly, in the United Nations International Conferences on Ageing and Urbanization in 1991, the term elderly is defined as the population aged 60 years and above.² For international comparison, the population aged 65 years and above is categorized as the ageing population. But in the case of developing countries like Nepal, the population aged 60 years and above is categorized as elderly population. Senior Citizen Act of Nepal (2006) defined elderly population as those people who are aged 60 years and above.³ In this study, the elderly population is defined as those people whose age is 60 years and above, considering the definition provided by the United Nations and the Senior Citizen Act of Nepal.

Among various issues faced by elderly people, socioeconomic problems are of prime importance especially in a developing country like Nepal.⁴ The socio-economic background of older people helps in understanding their living conditions, quality of life, and expectations from their family, community and state in terms of their own needs.⁵ There is a need to explore economic characteristics such as working status, land holding and dependence on social security scheme; along with involvement in decision making in the family. These may also reflect upon the quality of life, living arrangement, involvement in social activities of the elderly people.

The main objective of this study was to provide information about the socio-economic condition of elderly people living in rural areas of Nepal. Specifically, the social status (such as: living arrangements, decision making status, involvement in social activities and education) and economic status (such as: working status, land holding and social security scheme) were assessed.

Methods

This is a cross-sectional study carried out in 2017. For this study, the Kailali district, in the western part of Nepal is chosen purposively. Two Village Development Committees (VDCs) (local administrative unit) were chosen as convenient sampling. Total sample size for this study was determined as 396 households through Yamane formula.⁶ A multi-stage sampling design was adopted for this study. At the first stage, two VDCs named (Hasuliya and Basauti (now renamed as Kailari Rural municipality) of Kailali districts which represent the highest proportion of elderly population were selected as sampling area. At the next stage, all the 18 wards of selected VDCs were sampled. All the wards of selected VDCs were considered as cluster. So, there were 18 clusters in this study. All the sampled clusters were considered as primary sampling units (PSU) for this study. At the last stage, 22 households with at least one elderly 60 years and above were selected from each sampled cluster. Systematic random sampling method was used for the selection of 22 households from each cluster. However, in the survey a total of 396 households were visited and 547 elderly people aged 60+ were successfully interviewed. All the elderly persons in the sampled households were enumerated. Enumeration of all elderly persons in the sampled household would ensure coverage of both males and females and all age.

Data was collected using face-to-face structured interview method. Respondent's right to refuse and withdraw from the interview at any time was emphasized. Respondents were assured of the confidentiality. Informed verbal consent of respondents was sought, before the interview. The data was statistically analyzed by using SPSS version 20.0. For the statistical analysis: frequency table, percentage, mean, standard deviation (SD), and chi square test were used and the results were presented in a descriptive way.

Results

There were 547 elderly people aged 60 years and above included as participants in the study. The mean age of research participants was 71.4 ± 8.0 years (Table 1). Majority of the respondents were female (58.9%). Over three fifths (63.1%) of the respondents were married. Average household size was 6.9 ± 3.3 persons. Majority of respondents (85.2%) reported that they were residing with

their son/daughter-in-law, followed by spouse only (7.9%). It was found that about less than two percent (1.5%) respondents were residing with their daughter/sonin-law. Furthermore, it was also found that about three percent (2.7%) respondents were residing alone. Female literacy rate was observed low compared to male elderly people. The literacy rate for elderly males was 39.1% and that for females was only 13.7%. About half of the respondents (48.4%) had owned some land in the study area.

Living Arrangements

Living arrangement about with whom the elderly people reside would suggest who the main care-givers are. Sometimes this may also reflect the support that the elderly people receive in the family or non-family context. Moreover, economic conditions and support systems available to elderly persons and the health status of individuals influence the degree of independence that can be maintained into advanced ages.⁷

Majority (85.2%) of respondents reported that they were residing with their son/daughter-in-law followed by spouse only (7.9%). Less than two percent (1.5%) respondents were residing with their daughter/son-in-law. Furthermore, it was also found that about three percent (2.7%) of respondents were residing alone. More females (3.1%) than males (2.2%) were residing alone. The data on caste/ethnic group of the respondents reflect that one third of elderly people (33.3%) of Hill Janajati group were residing with spouse only; while the corresponding figure for elderly of Hill Caste group was found as one fifth (20.5%). About eleven percent (11.1%) of elderly people of Hill Dalit caste/ethnic group were residing alone while the corresponding figure for elderly people of Hill Caste group was less than three percent (2.6%).

Table 1: Living arrangements of elderly population in different demographic groups										
Demographic variables		Types living arrangement								
	Spouse only	Son/ daughter-in- law	Daughter/ son-in-law	Grand children	Alone	Other family members*	N			
Sex										
Male	10.2	84.4	0.9	1.8	2.2	0.4	225			
Female	6.2	85.7	1.9	2.5	3.1	0.6	322			
Age group										
60-74	8.9	85.9	1.8	0.5	2.9	0.0	382			
75+	5.5	83.6	0.6	6.1	2.4	1.8	165			
Caste/ethnicity [#]										
Hill caste	20.5	73.1	0.0	3.8	2.6	0.0	78			
Hill janajati	33.3	33.3	33.3	0.0	0.0	0.0	6			
Tharu	4.6	90.0	1.2	1.7	1.7	0.7	409			
Hill Dalit	11.1	72.2	1.9	3.7	11.1	0.0	54			
Total	7.9	85.2	1.5	2.2	2.7	0.5	547			

*Other family members include Nephew/niece in law and brother /sister in law. [#] Hill Caste includes Hill Bhraman, Chhetri and Thakuri; Hill Janajati includes Magar and Gurung; Hill Dalit incudes Kami, Damai/Dholi, Sarki, Sonar, Lohar, Tamata and Badi caste group.

Table 2: Frequency of participation in public meetings in last one year by the elderly								
Demographic variables		Participation in public meetings						
	Never	Once or twice per year	Once or twice per month	Once or twice per week	Ν	Р		
Sex								
Male	47.1	27.6	21.8	3.6	225	< 0.001		
Female	62.1	2.7	24.8	0.3	322			
Age group								
60 - 74	43.7	13.3	30.9	2.1	382	< 0.001		
75 +	84.2	8.5	6.7	0.6	165			
Caste/ethnicity								
Hill caste	56.4	17.9	19.2	6.4	78	< 0.001		
Hill Janajati	0.0	67.7	33.3	0.0	6			
Tharu	4.4	17.8	19.8	1.0	409			
Hill Dalit	20.4	22.4	57.4	0.0	54			
Total	55.9	18.8	23.6	1.6	547			

Table 3: Role of decision making in the family by the elderly								
Demographic variables	Role of decision making in the family							
	Declined	Remain the same	Improved	Ν	Р			
Sex			-					
Male	46.2	51.6	2.2	225	P=0.05			
Female	56.5	41.0	2.5	322				
Age group								
60 - 74	46.1	51.0	2.9	382	< 0.001			
75 +	66.7	32.1	1.2	165				
Caste/ethnicity								
Hill caste	7.7	92.3	0.0	78	< 0.001			
Hill Janajati	33.3	66.7	0.0	6				
Tharu	66.5	30.3	3.2	409				
Hill Dalit	11.1	88.9	1.3	54				
Total	52.3	45.3	2.4	547				

Table 4: Literacy status of the elderly								
Demographic variables	Literacy status and educational attainment							
	Literacy rate	No education	Non- formal education	Primary education	Secondary education (6-10)	SLC [#] and above	Ν	Р
Sex								
Male	39.1	60.9	27.1	8.9	2.7	0.4	225	< 0.001
Female	13.7	86.3	12.7	0.6	0.0	0.3	322	
Age group								
60 - 74	29.3	70.7	23.3	4.7	1.3	0.0	382	< 0.001
75 +	12.1	87.9	7.9	2.4	0.6	1.2	165	
Caste/ethnicity								
Hill caste	39.7	60.3	25.6	6.4	5.1	2.6	78	< 0.001
Hill Janajati	66.7	33.3	50.0	16.7	0.0	0.0	6	
Tharu	19.1	80.9	15.4	3.2	0.5	0.0	409	
Hill Dalit	35.2	64.8	29.6	5.6	0.0	0.0	54	
Total	24.1	75.9	18.6	4.0	1.1	0.4	547	
[#] SLC: School Leaving	Certificate							

Involvement in Social Activities

Elderly people in Nepal especially in rural areas are prone to social isolation and exclusion due to lack of social capital. Elderly peoples' participation in social networks is a significant component of well-being. Frequency of attending any group, club, society, or organizational meetings ensures active participation of elderly people in social matters and helps them feel independent and capable of taking decisions.⁸ Generally, the types of the public meetings which were organized in the study area included: *Aama Samuha* (Mother's club), *Kishan Samuha* (Farmer's club), *Tole Sudhar Samiti* (Neighbour's club) and elderly club.

All the respondents were asked about the frequency of attending public meetings held in their community. Over half of respondents (55.9%) reported that they never attended any public meetings in last one year. An almost negligible proportion (1.6%) of respondents attended public meetings once or twice per week in last one year.

The data on sex of the respondents reflect that majority of female respondents (62.1%) reported that they have never attended any public meeting in the last one year while the corresponding figure for male respondents was less than half (47.1%) (p<0.001). This suggested that the practice of participation in public meeting was significantly different between the genders.

Caste/ethnic group wise data shows that majority of Tharu respondents (61.4%) reported that they have never attended public meeting in the last one year while the corresponding figure for Hill Caste group respondents was over half (56.4%). On the other hand, majority of respondents of Hill Janjati caste/ethnic group (66.7%) reported that they have attended a public meeting once a year in the last one year (Table 2). This is statistically significant. This means the frequency and practice of participation in public meeting is significantly different according to caste/ethnic group of respondents.

Involvement in decision making in the family

Over half of respondents (52.3%) reported that their decision making role has declined after they grew older

and slightly less than half of the respondents (45.3%) placed in the 'remain the same' category (Table 3). Less than three percent (2.4%) of respondents reported that their decision-making role has improved as they grew older.

Among the elderly males interviewed, over half of the respondents (51.6%) reported that their role as a decision maker has remained the same as they grew older compared with only 41% of females. Over half of female respondents (56.5%) reported that their role has declined as they grew older.

The data on caste/ethnic group of the respondents shows that the majority of respondents of Hill Caste group (92.3%) and Hill Dalit group (88.9%) and the majority of the respondents of Hill Janajati group (66.7%) reported that their role as a decision maker in the family has remained same as they grew older while majority of respondents of Tharu ethnic group (66.5%) reported that their role as a decision maker in the family has declined as they grew older. The results suggested that the role of decision making in the family in different caste/ethnic groups were significantly different.

Educational Status

Educational status includes both literacy status and educational attainment of the respondents. In this study, a literate person is one who can read and write. Table 4 shows the literacy status and educational attainment of the respondents according to background variables.

The literacy rate of elderly people was 24.1%. The educational status of female respondents was found to be lower as compared to male respondents at all levels. Caste/ethnic group data shows that majority of respondents of Tharu ethnic group (80.9%) and majority of respondents of Hill Dalit group (64.8%) and Hill Caste group (60.3%) reported that they were literate while corresponding figure for Hill Janjati group was about one third (23.3%) of the respondents.

Table 5: Working status of elderly								
Demographic variables	Curr	ently w	orking	Status of current work				
	Yes	No	Р	Employer	Wages	Self employed	Household work	Ν
Sex								
Male	69.8	30.2	0.16	0.6	7.0	83.5	8.9	225
Female	75.2	24.8		0.4	0.4	2.9	96.3	322
Age								
60-74	88.7	11.3	< 0.001	0.6	2.9	35.3	61.2	382
75+	36.4	63.6		0.0	3.3	31.1	65.6	165
Caste/ethnicity								
Hill caste	44.9	55.1	< 0.001	0.0	2,7	35.1	62.2	37
Hill janajati	100.0	0.0		0.0	16.7	50.0	33.3	6
Tharu	76.8	23.2		0.6	2.9	34.1	62.4	314
Hill Dalit	81.5	18.5		0.0	2.3	36.4	61.4	44
Total	72.9	27.1		0.5	3.0	34.7	61.8	547

Working Status

Less than one third (30.2%) of male respondents and one quarter (24.8%) of female respondents were found to be not working at the time of survey due to health problems or other causes. The status of current work was found the highest on 'self-employed' category for males (83.5%); while most females responded with 'household work' (Table 5).

The data on caste/ethnic group of the respondents suggested that all respondents of Hill Janajati group, majority of Hill Dalit group (81.5%) and most of the respondents of Tharu ethnic group (76.8%) were currently working; while the corresponding figure for of the Hill Caste group was less than half (44.9%).

Land holding

About half of the respondents (48.4%) owned some land. The percentage of landholding was significantly higher for male respondents (94.2%) when compared to female respondents (16.5%). The land holding percentage was found higher for 75 years and above age groups (52.7%) compared to below 75 years (46.6%) age group (Table 6).

The data on age group of the respondents reflect that there was no significant difference in terms of land holding ownership according to caste/ethnic group. Percentage of land holding was higher for Hill Dalit respondents (59.3%) followed by Hill Caste group (52.6%).

Table 6: Status of land holding by elderly							
Demographic variables	Owner land h	Ownership of land holding					
	Yes	No	Ν	Р			
Sex							
Male	94.2	5.8	225	< 0.001			
Female	16.5	83.5	322				
Age							
60-74	46.6	53.4	382	0.18			
75+	52.7	47.3	165				
Caste/ethnicity							
Hill caste	52.6	47.4	78	0.27			
Hill janajati	50.0	50.0	6				
Tharu	46.2	53.8	409				
Hill Dalit	59.3	40.7	54				
Total	48.4	51.6	547				

Social security scheme

In the household survey, all respondents were asked whether they have received any senior citizen or single women allowance or Dalit allowance during the last oneyear. Table 7 shows the receiving status of social security allowance according to background variables.

About two thirds (66.9%) of respondents were found to be receiving the old age social security allowance. Of them, 73.6% were females and 57.3% were males. The low percentage of males compared to females is due to the fact that single women aged 60 and over also includes in

the figure of females while for males it is only 70 years and above plus 60 years and above for Dalit caste group (Table 7).

An overwhelming percentage of Hill Dalit group (94.4%), most of the respondents of Hill Caste group (75.6%), majority of the respondents of Tharu ethnic group (62.3%) and less than one fifth of respondents of Hill Janajati group (16.7%) reported that they have received social security allowance during the last one-year (Table 7). The receiving status of old age social security allowance was observed as statically significant according to sex of the respondents. It was also significant according to caste/ethnic group.

Table 7: Proportions of elderly receiving old age orsingle women or Dalit allowances							
Demographic variables	Receiv allow						
	of senior citizen or retired pension						
	Yes	No	Ν	Р			
Sex							
Male	57.3	42.7	225	< 0.001			
Female	73.6	26.4	322				
Caste/ethnicity							
Hill caste	75.6	24.4	78	< 0.001			
Hill janajati	16.7	83.3	6				
Tharu	62.3	37.7	409				
Hill Dalit	94.4	5.6	54				
Total	66.9	33.1	547				

Discussions

This study is focused on socio-economic status of elderly people in rural areas of Nepal. There are very few studies carried out on the issues of the elderly in Nepal. Earlier studies only focus on some different aspects of elderly people.^{4,8,9,10,11} This study found majority of elderly (85.2%) were residing with their son/daughter-in-law and less than three percent (2.7%) elderly people were residing alone. The literacy rate of elderly people was 24.1%. Slightly less than half of the elderly people (48.4%) had land ownership; more males had land ownership (94.2%) compared with females (16.5%). The majority of elderly (66.9%) reported that they received old age social security allowance and most of the elderly (72.9%) reported that they were currently working. Similar type of study was also carried by Central Department of Population Studies, Tribhuvan University (CDPS/ TU) with financial support of UNFPA in six VDCs of Pharping area of Kathmandu district in Nepal in 2012 and found that majority of elderly people (66.5%) were residing with their son/daughter-in-law and three percent elderly were residing alone. The literacy rate of elderly people was 40%. Majority of elderly people (71.8%) owned land/property. Gender difference in terms of land/ property ownership was found to be higher for male elderly people (89.1%) compared to female elderly people (53.4%). Majority of elderly people (80.0%) reported that they were receiving old age social security allowances and majority of respondents (70.3%) reported that they were currently working.¹² The findings of both studies show that there are some similarities and suggest that elderly socio-economic status must be seen from a gender perspective.

A similar type of study was carried out in Mumbai, India in 2014 found that over half of the elderly women (53.6%) were literate which was observed higher than the result of this study and only about one quarter of elderly women (25.3%) are currently working which is a comparatively low rate of participation rate in relation to the results of this study (75.2%). The study in Mumbai shows that majority of respondents (88.4%) never attended any public meetings in the previous year which was observed higher than the result of this study (55.9%).¹³

This study shows that the decision-making role of the elderly people has changed over time. Over half of the respondents (52.3%) reported that their decision-making role declined as they grew older and less than half of the respondents (45.3%) placed in the 'remained the same' category. In this regard, a study in rural Maharashtra in 2011 reported that the decision-making power of majority (66.6%) of older persons had decreased over the time.¹⁴

Limitations of the study

This study was conducted on selected households of rural area of Kailali district; so the generalizability is limited. The cross-sectional nature of the study cannot explain any causal relationship. The study has used the responses of elderly people themselves to understand their socioeconomic status; without any specific measure. Urban settlements have not been included in this study.

Conclusions

This study found that the overwhelming majority of elderly people (85.2%) were residing with their son/daughter-in-law. A small proportion of females (3.1%) and males (2.2%) were residing alone. Further, this study showed that the literacy rate of elderly people was found to be very low. The majority of male respondents (60.9%) and female respondents (86.3%) have no education at all. Most of the elderly people were working. The percentage of land holding was found to be significantly higher for males, compared with females. The majority of elderly people reported that they receive old age security allowance. The findings of the study revealed that females are at a greater disadvantage than males in all aspects studied such as literacy, living alone, ownership of property, involvement in decision-making in the family, involvement in social activities, receiving status of old age security allowance and current work status.

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Review

Coping with information overload in the COVID-19 age: a compilation of trustworthy information sources

John Hudson

Abstract

The COVID-19 / Novel Coronavirus (2019-nCoV) pandemic has transformed world history within just a few months. Coronavirus was confirmed to have reached pandemic status by the World Health Organization in mid-March 2020, and is now a global phenomenon. The COVID-19 pandemic has been mirrored by a corresponding "Infodemic", the consequences of which are often problematic rather than helpful. Immense volumes of scientific. medical, epidemiological. statistical, governmental and managerial information have been produced, imposing significant challenges of adaptation for busy health and care professionals, amidst rapid change. This article aims to raise awareness of practical coping strategies and accessible tools which should help reduce the psychological stresses of information overload.

Key words

Coping Strategies, COVID-19, Infodemiology, Information Services, Pandemics, Psychological adaptation, Uncertainty

Introduction

The COVID-19 pandemic has given rise to a huge ocean of publications this year, a good proportion of which fall into the category of myths, misinformation and fake news; much of which can be discounted and avoided relatively easily.¹ The emerging scientific and professional literature, on the other hand, can itself present something of a potential quagmire, for the simple reason that current knowledge on the topic remains uncertain. No treatment has yet been proven to work entirely effectively, and competing medical / prediction models have their own limitations and risks of bias.² Seemingly authoritative papers are subject to subsequent re-interpretation.³ Supposedly unambiguous statistics are open to question and re-interpretation; albeit with rapidly evolving sophistication.⁴⁻⁶ Epidemiologists disagree over models. Official guidelines are themselves fluid and subject to ongoing refinement in the light of new evidence. An attempt to follow the professional literature alone can all too easily result in the reader suffering from a sense of "information overload", struggling to make sense of the deluge of new material. This problem is not about to go away, even with the passing of the "first wave" of the pandemic in some countries. COVID-19 presents a truly global pandemic, meaning that publications will continue to arise from all nations / continents and in several languages.

Steadfast efforts to "Tame the Torrent"

Library and information services staff have not been slow in rising to these challenges. Employees fortunate enough to work at certain institutions in the UK may be provided access to "digests" of key information, produced regularly for current awareness purposes and circulated on behalf of staff. These invaluable bulletin services typically list newly published materials, organised conveniently under broad subject headings, for easy comprehension and rapid access.^{7.9} This article is addressed primarily to readers who may *not* be so blessed, and for those who may need (or even prefer) to steer an independent path.

An outline generic coping strategy

This brief article is an attempt to provide a simplified roadmap to the more important trusted information sources available, with a view to placing readers back "in control" of where to look for updates themselves, selectively, at a time and pace suited to their increasingly busy workloads. Each of the web links supplied from this point onwards can be selected with a simple mouse-click to obtain the latest updates; you may re-visit each, as frequently as necessary, and - for the foreseeable future without charge.

A key skill for avoiding information overload, amidst an over-abundance of possible sources, is to be aware of the best places to look. This in turn depends on the type(s) of question the reader is hoping to answer. Some of the more common categories of question, and different user / interest groups, are listed below with a view to aiding the selection process.

General news

Each reader will have a personal preference for coronavirus pandemic news. The following is suggested,

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on the grounds of impartial, broad-ranging, international coverage: *BBC Health News*.¹⁰

Information for older people

Health Education England provides links to ageappropriate coronavirus resources for the public, including information tailored for older people.¹¹

Information for the general public

In the United Kingdom, the NHS offers basic advice.¹²

Information / Guidance for UK health professionals

Compilations of guidance from **Public Health England** and the **Department of Health and Social Care** are available.^{13,14} The **National Institute for Health and Care Excellence (NICE)** regularly updates their website with the latest NICE guidance and evidence reviews.¹⁵

Information for geriatricians

The **British Geriatrics Society** has set-up a page of information resources for medical professionals working with the elderly.¹⁶

Information for nurses

The **Nursing Times** has a free-to-access set of online information of relevance to nursing, including mental health nursing and often mental health issues.¹⁷

Advice for local Government and Social Care

Information produced for social workers, employees of councils and care provider organisations is available from *SCIE*.¹⁸ See also category (**iii**) in the following section.

Information for NHS managers

NHS England and **NHS Improvement** have jointly produced a roadmap to coronavirus guidance for NHS managers, and for clinicians, handily organised by health-care sectors: (i) primary care, (ii) secondary care and (iii) community-based health, social care, mental health trusts and ambulance services.¹⁹

Leading UK think tanks, including the **Health Foundation**, the **King's Fund** and the **Nuffield Trust** are involved with **Imperial College Health Partners** and the *Strategy Unit*, in performing collaborative research concerning a number of COVID-19 topics of relevance to health and social care leaders.²⁰

Publishers' Websites

Many medical academics and researchers tend to have their preferred high-impact journals and journal publishers. The main medical and scientific publishers have each created web pages which give access to aggregated collections of journal articles from their various journal titles. Access is free, for the duration of the COVID-19 crisis, at least.

- *British Medical Journal (BMJ)*. BMJ's Coronavirus (COVID-19) Hub: Latest news and resources.²¹
- *Elsevier*. Elsevier's Novel Coronavirus Information Center. Elsevier's free health and medical research on the novel coronavirus (SARS-CoV-2) and COVID-19.
- *The Lancet*. Lancet's COVID-19 Resource Centre, which includes relevant Lancet Psychiatry papers.²³
- New England Journal of Medicine (NEJM). Coronavirus (Covid-19).²⁴
- Oxford University Press.²⁵

Further information for medical researchers and scientists

Mention should be given to leading UK research bodies and information centres.²⁶⁻²⁸ Similarly some of the major research organisations in the USA and Canada cannot be omitted.²⁹⁻³²

Major public domain databases and aggregator services

Now we move-up a gear. Had we not been struggling collectively in the thick of a coronavirus (COVID-19) "infodemic", these information services would be recommended, unhesitatingly, as the epitome of all that is good; they ordinarily constitute the old-faithful "well-spring" (if you will) of the best trustworthy information as it emerges world-wide, assembled from a range of reputable sources.

PubMed is widely considered to be the world's foremost medical database, commonly used by medical professionals. It is a relatively simple exercise to create a quick pragmatic "catch-all" search to capture recent publications relating to COVID-19 using this source.³³ The most recent items appear first. There are simple one-click filters which can be applied to the results, too; for example, one might choose to view just the reviews, or just the clinical trials, or the material published in any specified language(s). Much of the information retrieved tends to be available freely, as explained earlier.²¹⁻²⁵

Google Scholar is another popular, accessible and useful search engine.³⁴

KnowledgeShare is a subscription-based service from Brighton and Sussex University Hospitals (BSUH). COVID-related content on KnowledgeShare is available to view freely for the duration of the coronavirus crisis.³⁵

Perhaps the main trick to preserving mental equanimity when using the services in this powerful category is to "dip-in" from time to time, as the need and appetite dictates. Linger a moment too long and you'll become swiftly aware that you've been partaking a "genteel sip" from a high-pressure fireman's hose. Step-back promptly, or hang-on to your hat.

Subject-specific searches: pre-defined

A further useful insight, worth sharing, is to be aware that several public-spirited organisations from around the world have already created and shared whole suites of subject-specific searches, utilising *PubMed* and / or *Google Scholar* facilities.^{20,36,37} These pre-defined options can help reduce information overload, and save time, for persons who may only be interested in specific topics and angles at any particular time. They are also relatively easy to modify, and useful as a basis with which to experiment, even when the search for a given unique facet of interest cannot be found directly "off-the-shelf". Standing on the shoulders of giants, indeed.

Other evidence sources?

Inevitably, there are many more excellent information services and sources of evidence available, too numerous to list here.³⁸

Conclusion

This article has created the much-needed "illusion" of simplicity, to supply readers with an easilv comprehensible aid to guiding their information seeking and navigation across the various domains of COVID-19 related publications. Certain overlaps and omissions in coverage may have occurred, which is to be expected. The solution to the problem of information overload (or more accurately, the suite of sign-posted solutions - for there are many), as provided above, may be an oversimplification - to be sure - as the underlying issues are not simple. This article has striven to offer a practical antidote to the danger of drowning passively in the seemingly endless flood of information published. It puts the reader back into the driving-seat.

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Creative Expressions

Grey's Bridge, Dorset

Gaye Johnson



I was inspired to try my hand at drawing the above image after looking through the book Hardy Country by Tom Howard which contains photographs of the amazing scenery in the beautiful English County of Dorset. I decided to attempt copying the photograph of Grey's Bridge taken by A F Kersting.

I have always been more interested in the "arty" things in life rather than academia so out came my pencils and a start was rather shakily made. I began by using various graphite pencils to put a series of marks on paper, with thicker black ones indicating the foreground and lighter, more whispier ones, the far distance. The arches in the bridge were the most difficult part as the three spans are unequal and drawing the curves freehand was problematical.

Once the initial pencil drawing had been completed to my satisfaction on watercolour paper, 300 gsm knot, I inked over it using the old fashioned dip pen and Indian ink

method (much to the amusement of my daughter who had never seen this process before!)

When finished I was reasonably pleased with the end result and after encouragement from the art tutor, Louise Griffin, at a local "Learn to Draw" class I had recently joined, I took my courage in both hands and started to add a light watercolour wash. As I was pleased with the black and white line drawing I had created and not wanting to spoil it with my first foray into water colouring I decided to photocopy my original. I soon found out that copying on to a sheet of watercolour paper is well nigh impossible for a novice such as myself, so a sheet of cartridge paper was used instead, not exactly suitable for watercolour paint, but it would go through the copier!

To start with I wet (very sparingly) the entire image before adding my various colours, a technique called "wet in wet" I believe, but don't quote me on that! It was a distinct learning curve for me as never having used

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watercolour paints before and not knowing what colours to mix together to achieve my desired effect proved difficult, and I hope I was successful with the outcome.

Whilst I shall never become a proficient artist I enjoy the process of putting pen to paper and it is a hobby which as life advances quickly I can take up and put down when time and my advancing years allow.

Since completing this project I have tried various other mediums such as soft and hard pastels, graphite pencils and coloured pencils but my first love will always be for pen and ink.

Here is a little information Grey's Bridge for those of you who have managed to wade through this write up and make it to the end. The bridge, which is Grade II listed, was built in 1748 and carries the London Road over the Frome River outside the town of Dorchester. This is the bridge of the poem "Sitting on a Bridge" by Thomas Hardy, about girls sitting on the parapet flirting with soldiers from the Dorchester barracks so has therefore been immortalised into English literature. It has also featured as the location of key events in both Far From the Madding Crowd (1874) and The Mayor of Casterbridge (1886) also by Thomas Hardy.

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Manuscript Preparation

Instructions for authors

Introduction

The Journal of Geriatric Care and Research (JGCR) is the official publication of Geriatric Care and Research Organisation (GeriCaRe). The JGCR publishes original work in all fields of geriatrics, contributing to the care of elderly. Theme based special issues focusing one aspect of care are also published periodically. Manuscripts for publication should be submitted via email <jgcr.gericare@gmail.com>.

The *JGCR* is not responsible for statements made by authors. Material in the *JGCR* does not necessarily reflect the views of the Editors or of GeriCaRe.

Editorial process

The *JGCR* follows in principle the Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals by the International Committee of Medical Journal Editors (ICMJE) and the Committee on Publication Ethics (COPE).

Contributions for *JGCR* are accepted for publication on the condition that their substance (whole or part) has not been published or submitted for publication elsewhere, including internet. If there are other papers from same database, then the authors must send all details of previous or simultaneous submissions.

All submitted articles are peer reviewed. At the first step, the articles are assessed by the editorial board for its suitability for the formal review.

If found suitable, the manuscripts undergo a double-blind peer review. The suggestions received from reviewers are conveyed to the corresponding author. When appropriate, the author is requested to provide a point by point response to reviewers' comments and submit a revised version of the manuscript.

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Authorship credit should be based only on substantial contribution to:

- Conception and design, or analysis and interpretation of data
- Drafting the article or revising it critically for important intellectual content, and
- Final approval of the version to be published

All these conditions must be met. Participation solely in the collection of data or the acquisition of funding does not justify authorship. In addition, the corresponding author must ensure that there is no one else who fulfils the criteria but has not been included as an author.

Group authorship is permitted, but in this case individual authors will not be cited personally.

If a professional medical writer was used for manuscript preparation, their name and contact details must be given in the acknowledgement and any conflicts of interest must be disclosed.

The corresponding author must sign the contributors form on behalf of all the authors, once a manuscript has been accepted. This author must take responsibility for keeping all other named authors informed of the paper's progress.

Unless otherwise stated corresponding author will be considered as the guarantor of the article. However one or more authors/contributors can be guarantor. The guarantor accepts full responsibility for the work and/or the conduct of the study, had access to the data, and controlled the decision to publish.

Declaration of competing interest

All submissions to the *JGCR* (including editorials and letters to the Editor) require a declaration of competing interest. This should list fees and grants from, employment by, consultancy for, shared ownership in, or any close relationship with, at any time over the preceding three years, an organisation whose interests may be affected by the publication of the paper.

Ethics approval of research

The *JGCR* expects authors to follow the World Association's Declaration of Helsinki and base their article on researches conducted in a way that is morally and ethically acceptable. The research protocol must have

been approved by a locally appointed ethics committee or institutional review board.

Every research article must include a statement that the investigators obtained ethical approval for the study (or an explanation of why ethical approval was not needed) in the methods section of the manuscript with the name and location of the approving ethics committee(s).

Patient consent and confidentiality

A statement regarding informed consent must be included in the methodology. Studies involving humans must have written informed consent from the patients. Where the individual is not able to give informed consent for lack of mental capacity, it should be obtained from a legal representative or other authorised person. If consent cannot be obtained because the patient cannot be traced then publication will be possible only if the information can be sufficiently anonymised. Anonymisation means that neither the patient nor anyone could identify the patient with certainty. Such anonymisation might, at an extreme, involve making the authors of the article anonymous. If the patient is dead, the authors should seek permission from a legal representative or other authorised person as a matter of medical ethics.

The authors should check the specific laws in their country. Contributors should be aware of the risk of complaint by individuals in respect of breach of confidentiality and defamation; and must archive the signed informed consent form.

The process used to assess the subject's capacity to give informed consent and safeguards included in the study design for protection of human subjects should be mentioned.

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Authors should consider all ethical issues relevant to publication. This includes (but not restricted to) avoiding multiple submission, plagiarism and manipulation of figures/data. Any concerns in this regard must be brought to the attention of the Editor and these will be investigated by procedures recommended by the Committee on Publication Ethics (COPE). If conclusive evidence of misconduct is found, the *JGCR* undertakes to publish a correction or retraction of article as necessary.

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All clinical trials must be registered in a public trials registry. This is a requirement for publications of the trials.

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The *JGCR* welcomes submissions of reports of qualitative research relevant to the scope of the care of elderly.

Type of manuscripts

Research article

The research article should normally be between 3000 and 4000 words in length (excluding references, tables and figure legends). Only the essential references should be given, preferably not more than 25 beyond those describing statistical procedures, psychometric instruments and diagnostic guidelines used in the study. Authors are encouraged to present key data within smaller tables in the appropriate places in the running text. This applies also to review articles and short reports.

A structured abstract not normally exceeding 150 words should be given at the beginning of the article, incorporating the following headings: Background, Aims, Method, Results, and Conclusions.

Key words: Up to six key words should be provided. Please use Medical Subject Headings (MeSH) as key words.

Article should have Introduction, Method, Results and Discussion sections. Authors may use relevant subheadings under these sections. Introductions should normally be no more than one paragraph; longer ones may be allowed for new and unusual subjects. The Discussion should always include limitations of the paper to ensure balance. A paragraph of practical implications of the observations is encouraged.

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Short reports (brief communications) are based on original research, observational or evaluation studies, clinical audits etc. These are structured as research articles and require an unstructured abstract of one paragraph, not exceeding 100 words. The report should not exceed 1500 words (excluding references, tables and figure legends) and contain no more than one figure or table and up to 10 essential references beyond those describing statistical procedures, psychometric instruments and diagnostic guidelines used in the study.

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Case reports and series require up to 100 word abstract, and the length should not exceed 1000 words (excluding references, tables and figure legends). The written informed consent of the individuals must be obtained and submitted with the manuscript. Please refer to patient consent and confidentiality paragraph for further detail. In general, case studies are published in the *JGCR* only if the authors can present evidence that the case report is of fundamental significance and it is unlikely that the scientific value of the communication could be achieved using any other methodology.

Review

Systematic and narrative review articles should be structured in the same way as research article, but the length of these may vary considerably, as will the number of references. It requires a structured abstract like that of research articles.

Short review

These articles focus on highly topical issues based on evidence. Professional perspectives, viewpoints, commentary and opinion are included here. It can also include clinical review relevant to the practitioners. These articles are usually more broad-based than editorials. They can include tables and figures. Usual length is around 1500 words (excluding references) with an unstructured abstract up to 100 words.

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Editorials require an unstructured summary of one paragraph, not exceeding 50 words. Editorials should not exceed 1000 words and may contain no more than one figure or table and up to 10 essential references.

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Letters may be submitted either as responses to published articles, to inform about particular situation or raise pertinent issues, as expert opinion or as general letters to the Editor. Letters may be up to 400 words in length with a maximum of 5 references.

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These articles include variety of topics which may reflect an individual perception, involvement or contribution to geriatric care. It can include good practice examples, inspirational experiences and highlight neglected areas. Essays in descriptive prose can be submitted on any topic related to geriatric care. These are usually written by a single author but a second author may be included occasionally. The length of the articles may vary considerably depending upon the topic and may be up to 2000 words excluding references. An unstructured summary of around 100 words is preferred but not mandatory. Use of subheadings is encouraged.

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In first person accounts *JGCR* publishes experiences of older persons or their care providers about the care and concerns of the elderly, that can be considered significant and provide learning points for others.

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Prepare article in Word, A4 size page, with 1 inch margin, double spaced throughout.

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The authors' names are followed by the full title of the article; the journal title abbreviated according to the PubMed; the year of publication; the volume number; (issue number in bracket); and the first and last page numbers.

1. Singh SP, Singh V, Kar N, Chan K. Efficacy of antidepressants in treating the negative symptoms of chronic schizophrenia: meta-analysis. Br J Psychiatry. 2010; 197(3): 174-9.

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2. Murray PR, Rosenthal KS, Kobayashi GS, Pfaller MA. Medical microbiology. 4th ed. St. Louis: Mosby; 2002.

3. Meltzer PS, Kallioniemi A, Trent JM. Chromosome alterations in human solid tumors. In: Vogelstein B, Kinzler KW, editors. The genetic basis of human cancer. New York: McGraw-Hill; 2002. p. 93-113.

4. Foley KM, Gelband H, editors. Improving palliative care for cancer [Internet]. Washington: National Academy Press; 2001 [cited 2002 Jul 9]. Available from: http://www.nap.edu/books/0309074029/html/.

5. Cancer-Pain.org [Internet]. New York: Association of Cancer Online Resources, Inc.; c2000-01 [updated 2002 May 16; cited 2002 Jul 9]. Available from: http://www.cancer-pain.org/.

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Tables should be numbered and have an appropriate heading. The tables should be mentioned in the text such as Table 1 and the desired position in the manuscript should be indicated. Information in tables must not be duplicated in the text. The heading of the table, together with any footnotes or comments, should be selfexplanatory. The table should be placed at the end of the manuscript after references, each in a separate page. Authors must obtain written permission from the original publisher if they intend to use tables from other sources, and due acknowledgement should be made in a footnote to the table.

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The generic names of drugs should be used.

Generally, SI units should be used; where they are not, the SI equivalent should be included in parentheses.

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