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A Updated Review in the Dementia is Major Disease

[1]Komal Rajendra Deore, [2]Kannor Jagruti Eknath, [3]Pranjali Pravin Deshmukh, [4]Kishor Nivrutti Deshmukh

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ABSTRACT:-

Dementia is a gernal term for loss of memory language problem solving an other thinking it is neurological disorder characterise d by progressive and continue loss of congnitive function of body or body part in the disease the patient change the behaviour mood and coordination with family member in India or other countries people are suffering from the disease as per the above research the year old person or people are suffered about 8 % operation scene any tertionry case settings the Alzheimer disease are cause or belong to the category of dementia the patient are servival to the disease he can't lost this memory but also affect on the way to think, feel ,behave and speak . In the world above more than 55 million people have suffered over 60% of whom live in law and middle class family or countries every year are growth in nearly 10 million new case.

Keywords:-Dementia, mental health, late onset depression, Alzheimer, Diagnosis & Treatment.

Introduction:

ALZHEIMER'S DISEASE BURDENS AN INCREASING NUMBER OF OUR NATION'S ELDERS AND THEIR FAMILIES, AND IT IS ESSENTIAL THAT WE CONFRONT THE CHALLENGE IT POSES TO OUR PUBLIC HEALTH..."

Dementia is devastating not only for those persons who have it, but also for their caregivers and families. With an increasing number of people being affected by dementia, almost everyone knows. someone who has dementia or whose life has been touched by it. The consequences for societies and economies are devastating everywhere, in high-income countries and low-and middle-income countries (LMIC) alike.

Although awareness of dementia as a public health issue is increasing in some high-income countries, dementia has been absent from, or low on, the health agenda of LMIC and has been minimally represented in global health efforts. This is despite the high global prevalence and economic impact of dementia on families, caregivers and communities, and the associated stigma and social exclusion.

WHAT IS DEMENTIA?

Dementia is a syndrome due to disease of the brain - usually of a chronic or progressive nature in which there is disturbance of multiple higher cortical functions, including memory, thinking, orientation, comprehension, calculation, learning capacity, language, and judgement. Consciousness is not clouded. The impairments of cognitive function are commonly accompanied, and occasionally preceded, by deterioration in emotional control, social behaviour, or motivation. This syndrome occurs In a large number of conditions primarily or secondarily affect- ing the brain .

Alzheimer's disease is the most common form of dementia and possibly contributes to 60-70% of cases. Other major contributors include vascular dementia, dementia with Lewy bodies, and a group of diseases that contribute to frontotemporal dementia. The boundaries between subtypes are indistinct and mixed forms often co-exist (3).

Dementia affects each person in a different way, depending upon the impact of the disease and the person's pre-morbid personality. The problems linked to dementia can be under- stood in three stages:

Early stage-first year or two;

Middle stage second to fourth or fifth years;

Late stage fifth year and after.

These periods are given as an approximate guideline only - sometimes people may deteriorate more quickly, sometimes more slowly. It should be noted that not all persons with dementia will display all the symptoms .

By definition, dementia is an acquired global impairment in memory personality and intellect in an alert patient, that is sufficiently severe to interfere with social and/or occupational functioning. In the absence of a stroke or rapidly growing cerebral tumours (among other cases), the onset in anually grachial and the cognitive decline is absays progresive. In the absence of a cure for the disease, non pharmacological inventions and the judicious use of pharmacotherapy may not only help the patient and alleviate the stress on the caregivet, but can also help in delaying ioutitutionalisation,

1.1 Prevalence and burden of disease

The worldwide prevalence of dementia currently approximates 35.6 million people, a figure set to rise to 65.7 million by 2010 and (by doubling every 20 years) to 115.4 million by 2050. Nearly two-thirds of individuals with dementia live in developing countries, where the sharpest increase is numbers is said to occur The prevalence of dementia is approximately 5-7% of the elderly papulation. Starting at 1% for 60-year-olds, the prevalence doubles every 5.1 years, rising to some 30- 45% of those aged 85 and older in developed countries, while doubling every 7 years in developing countries. Among the South African elderly an estimate would place the number of dementia safferers at 250 000, with some 25 900 of these suffering from Alzheimer's disease (ADD),

Twenty per cent of AD patients are alive after a 15-year period, the mean shoration of illties being wave 10-12 years. Of the people with late-onset (63 years and older) dementia in developed countries, mote than half have AL), some 15% have vascular dementia (Vaf)), and the remaining 30%, a variety of some 60 sther forma of demania Many cases of AD exhibit a confluence with cerebrovascular disease (CVD) The sital worldwide societal cost of dementia was estimated at US6-422 billion in 2009, which included US$142 billion (14%) foc d informal care. Americans estimate that dementia costs them some US$100 hillim per year and yet a defay in the onset of AD by only 3 years would halve the prevalence of the disease, resulting in that enormous savings of human misery and cost to society. In all cases there are profound peychosocial effects on the caregiver, in whom the rates of depression, substance abase, hospitalisation and physical illness are all increased

1.2 Causes and types of dementia

In the South African population, dementia due to the HIV/AIDS compels (aflecting mainly the younger age group) is the most common. Among the elderly the most prevalent is VaD, followed by ADD, which in on the increase.

1.2.1 Alzheimer's disease.

The neuropathological halimarks of AD are amyloid plaques. neurofibrillary tangles, and synaptic and neuronal los with subsequent brain atrophy. Macroscopically, and with neuro-imaging imagnetic resonance imaging (MRI) and computed tomography (CT) scan), this demonstrates as flattening of gyri, widening of suki, atrophied medial temporal lobes and enlarged ventricles. Pathology at microvascular level has increasingly been implicated in the aetiology of AL), blurring the boundaries with VaD in many cases. AD and pomohly most other dementias tend to follow a sinuunidal course in that the initial slow, progressive deterioration accelerates rapidly before flattening out towards the end in kerping with the 3 stages of mild, moderate and severe.

The duration of illnes may be as short as 6 months or as kong as 20 years, with an average of 12 years. Neurochemically there are deficits in neurotransmitters including acetylcholine, noradrenaline, serotonin, and matostatin. Specific matations in chrumowmes 21, 14 and 1. inherited as familial autosomal dominant traits with full penetrance, are found in sorne 1% of all AD patients. Here the illaens usually presents itself in the 40s or early 50s and is susentially re-senile in onset (e. before the age of 65 years). More than 90% of cases of AD occur in individuals older than 60 years. Individuals carrying one or both alleles coding for apolipoprotein 8-4 (APOEA) on chromosame 19 hear an elevated tisk for late-onset AD, although this gene is not itself a cause of the disorder Fig. I represents the coune of AID.

Symptoms:

Cognitive changes -

• Memory loss, which is usually noticed by someone else.

• Problems communicating or finding words.

• Trouble with visual and spatial abilities, such as getting lost while driving.

• Problems with reasoning or problem-solving.

• Trouble performing complex tasks.

• Trouble with planning and organizing.

• Poor coordination and control of movements.

• Confusion and disorientation.

Psychological changes-

• Personality changes.

• Depression.

• Anxiety.

• Agitation.

• Inappropriate behavior.

• Being suspicious, known as paranoia.

• Seeing things that aren't there, known as hallucinations.

Treatment:

Management of any disease begins with diagnosis, assessment of severity and prognostication. Efforts are then directed at subtyping the disease and instituting appropriate pharmacological non pharmacological management. An active care plan directed at the caregiver is necessary to prevent caregiver burnout, frequent hospitalisations, early institutionalisation and elder abuse.

Causes:

Alcohol

Brain injury

Depression

Diabetes

Parkinson disease

Smoking

Down syndrome

Genetics

Hypertension

Some brain infections

RISK FACTOR for developing the Alzheimer's disease

Increased age (over 65 years of age)

Hypertension (high blood pressure)

Increased cholesterol levels Coronary artery disease

Diabetes

OTHER risk factors are

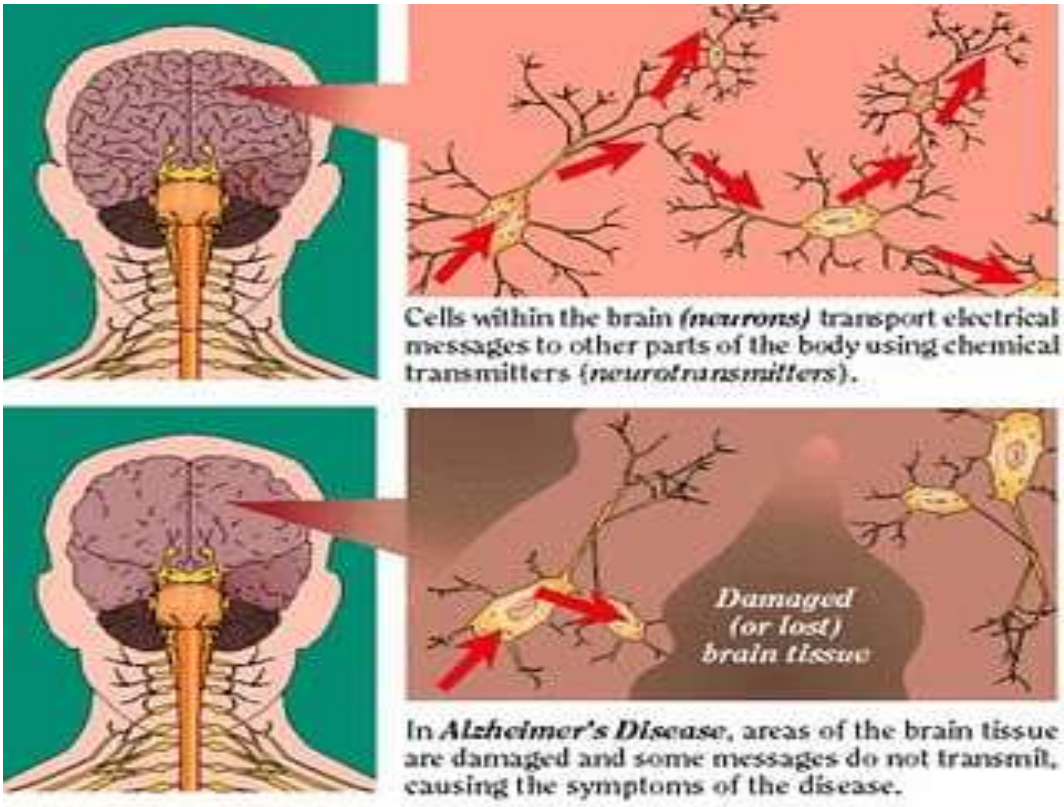
Genetics

Smoking and alcohol use

Plasma homocysteine

Down syndrome

Mild cognitive impairment



Methodology:

Module: Dementia

Overview

Learning objectives

• Promote respect and dignity for people with dementia.

• Know common presentations of dementia.

• Know the assessment principles of dementia.

• Know the management principles of dementia.

• Perform an assessment for dementia.

• Use effective communication skills in interactions with people with dementia.

• Assess and manage physical health concerns in dementia.

• Provide psychosocial interventions to persons with dementia and their carers.

-Deliver pharmacological interventions as needed and where appropriate.

• Plan and perform follow up for dementia.

• Refer to specialists and link with outside agencies where appropriate and available.

Key messages

• Dementia is not a normal part of ageing.

• Dementia is usually progressive it gets worse over time.

-Symptoms of depression and delirium in older adults can mimic symptoms of dementia, therefore, a thorough assessment and regular follow-up is essential.

-It is critical to assess the carer's stress and psychosocial well-being and provide psychosocial support.

• There is much that can be done to improve symptoms and the living situation of people with dementia and their carers.

• Psychosocial interventions are the first-line treatment options for people with dementia; pharmacological interventions should not be routinely considered.

• Behavioural and psychological symptoms of dementia can be very distressing for the person and carer; therefore, developing treatment plans that address these symptoms are essential.

Follow-up should be planned, at minimum, every three months.

Objective:

Key message

Dementia is called as Alzheimer's. Alzheimer's disease is a chronic, irreversible disease that affects the cells of the brain and causes impairment of intellectual functioning.

Alzheimer's disease is a brain disorder which gradually destroys the ability to reason, remember, imagine, and learn.

Types of Dementia

It is known that dementia is a progressive neurodegenerative disease so over the coming decades, it has become a set of the world's largest socio-economic healthcare burden issues. Alzheimer Society UK, claims that more than 60%-62% disease accounts as a Alzheimer's disease with the elderly followed by vascular dementia (17%), mixed (AD and vascular) dementia (10%), dementia with Lewy bodies (4%), fronto-temporal dementia (2%) and Parkinson's dementia (2%) [25,26]. According to the Alzheimer's society and Alzheimer association; Gupta, et al.,; Alzheimer Europe; WHO; Alzheimer's Association, UK; Knopman; Ganzer; Alzheimer's Association; Christensen & White, the types of dementias are given as below [27-33].

[Note: Here, the three (Alzheimer, Frontotemporal and Vascular) most common types of dementias have described a bit more than rare types of dementias].

Figure 1: Types of dementia.

1) Alzheimer Disease:

This disease was found by a German psychiatrist (a patients with 51-year-old woman Auguste Duter) after her death by brain autopsy while it was called senile dementia. After identifying in 1907 by "Alois Alzheimer", Alzheimer disease is considered as a global health issue over the coming decade that shows a progressive cognitive and functional decline in the patients. Alzheimer disease is an escalating epidemic. It is a chronic progressive neurodegenerative illness which clooacps of the cholinergic system and regulates acetylcholine in the brain [32]. AD has two forms- one is early onset that may appear in ages 30's, 40's, 50's and second is late onset. In general, AD develops after age 65. Research into its symptoms, causes, risk factors, and treatment has gained momentum during the past 30 years, even though it was investigating more than 100 years before.

2) Frontotemporal Dementia:

FTD used to be called Pick's disease after Arnold Pick, a physician who in 1892 first described a patient with distinct symptoms affecting language. It is the second common cause of old age disease. It is also known as Pick's disease. Also, it can be referred to as Frontotemporal lobar degeneration, progressive Aphasia, semantic dementia. It affects the frontal and temporal lobes of the brain and it does damage to the brain and changes in personality, behaviors and difficulties with language. In frontal part of the brain, the lobes of atrophy, or shrink portions can be appeared. This disease may appear at the age of early age of person like 40s and its duration, of course, can be 10 years from the beginning. This holds account nearly up to 10 to 15 percent of all dementia cases even if it is called rare disease.

After Alzheimer's disease, Frontotemporal Dementia (FTD) a third cause, and vascular dementia a second common cause of dementia in the elderly. The FTD is a major cause of early-onset dementia and most common cause of neurodegenerative dementia, accounting for % to 6% neuropathologically diagnosed cases of dementia at all ages [45].

Frontotemporal dementia clinically remains poorly recognized. They further say that behavioral rational treatments of FTD are limited as well as clinical management is challenging and FTD, pathologically and clinically, can be overlapping with symptoms of motor neuron disease. Likewise, some other reasons, these may not be easy to diagnose like, there is not an appropriate diagnostic test, subtypes of FTD and its over lapping clinical feature alike vascular dementia, parkinsons disease and other dementias.

FTD is a progressive syndrome of neuro degenerative condition which typically appears in the age of 50s-60s of life, however, it affects in the most cases over 65 ages. FTD can distinguish in to four categories according to its pathological and clinical features they are: primary progressive Aphasia (impairment in language ability), behavioral variant FTD (socially inappropriate interactions and emotions), corticobasal degeneration plasy (muscle weakness and tremors) and behavioral change, communication changes, movement changes, are the main symptoms of FTD [46].

3) Vascular Disease (Multi-Infarct or Post-Stroke Dementia):

Vascular disease is the term which describes blood vessel disease. Three types of blood vessels: arteries, veins and lymphatics circulate the blood in the body, but when the circulation of blood becomes disturbances in the brain function. This is second most common cause (10- 20%) of dementia. Mainly, language problem, persons memory, other intellectual disabilities, impaired judgment, memory loss are the signs of vascular disease. Except this incontinence, weakness, paralysis, mask-face facial expression, non-cognitive hallmarks may appear.

Vascular dementia (all forms of stroke e.g., ischemic and hemorrhagic forms) is also a type of dementia. Alzheimer society UK, classified as three types [47]. For instance; stroke related dementia-post stroke, single infract multi infract- blood supply sudden blocked, narrow and cut off in the brain; sub cortical vascular dementia-blood vessels becomes twished, stiff and thick-means that damages the nerves fibers in the white matters, and mixed vascular dementia (10%)- similar AD and VaD characteristics. VAD according to its cause of damage in the brain and affected part of brain damage process. These are It represents 20-30 percent of all cases of dementia. And hypertension, diabetes heart disease and stroke are the major risk factors for VaD increase. Even though some of these risk factors are modifiable, there is not reliable study with this issue. Front temporal, Vascular and Alzheimer disease is complex to distinguish accurately and these all disease appears with aging [47].

4) Dementia Lewy Bodies (DLB, 1912):

It may account 10% of causes of dementia. It shares the symptoms of Alzheimer's and Parkinsonism sings (shuffling gait, stooped posture, gait, rigid, slowness and poor balance). It sometimes referred to by other names, including Lewy body dementia, Lewy body variant of Alzheimer's disease, diffuse Lewy body disease, cortical Lewy body disease and senile dementia of Lewy body type. It appears a tiny, spherical protein in nerve cells even though any researchers are still confusing the casing factors [50]. Its genetic etiology is unclear -it is a complex brain disorder and a key member of the Lewy body disease spectrum is scattered. However, the basic science knowledge of DLB has raised exponentially, in this field the nursing practice knowledge existence as lack of nursing practice.

5) Mixed Dementia:

Mixed dementia is more common and it is characterized the abnormalities of AD, VaD and DLB [52].

6) Rarer and Unusual Types of Dementia:

Alzheimer society UK refers to have rare cause of dementia as following: Corticobasal degeneration, Creutzfeldt-Jakob disease, HIV-related cognitive impairment, Huntington's disease, multiple sclerosis, Niemann-Pick disease type C. normal pressure, hydrocephalus, Parkinson's disease, posterior cortical atrophy, progressive supranuclear palsy and all these accounts for nearly 5% [46].

6.1 Pure hippocampal sclerosis:

It can say that "mimic AD" and its characteristics show severe neuronal loss and gliosis of the hippocampus in the absence of changes present in other common dementias. A study was shown that is common for over 80-90 years compared to young age [52]. The neuronal loss and gliosis in the hippocampal formation is out of proportion to AD-type pathology.

6.2 Human prion disease:

It occurs 0.1 cases per 100 000 persons; 85% globally. It is a group of neurodegenerative disease-a misfolded types of the prion protein. This disease affect to the mammals like; sheep, cow, and deer. The most common form of the human prion disease is sporadic, is also called Gertsmann-Straussler-Scheinker syndrome (GSS), Creutzfeldt- Jakob disease (CJD), fatal familial insomnia (FFI), kuru and Variably Protease-Sensitive Prionopathy (VPSPr). All forms of HPD caused under their principles; acquired, genetic or sporadic. Accuired types of this are scary and hard to catch so its common way is infections. The next type is "Karu"- it can pass one person to another person by cannibalishm, in Papua New Guinea. The next one is transferd by the contaminated milk of mad cow, is called bovine spongiform encephalopathy and the variant Creutzfeldt-Jackob disease (vCJD) is related with the human. That transmits via medical contaminated instrument, hormone supplements, transplant organ, dura matters (a part of brain), all these called iatogenic infections. It can harm from 1 month to 1 year. Recently the group of found a new type of complex prion disease, was dubbed "variably prostate-sensitive prionopathy".

6.3 Niemann-Pick disease type C:

Niemann-Pick are 3 Types A and B (NPA and NPB), and C. Type A and B also called Acid Sphingomyelinase Deficiency (ASMD), are caused by the deficiency of a specific enzyme, Acid Sphingomyelinase (ASM) [54]. Niemann-Pick disease C (NPC) also called as synonyms Juvenile Niemann- Pick Disease- is a lipid storage disease that can present in infants, children or adults [54].

6.4 Normal pressure hydrocephalus:

Greek words "hydro" means water and "cephalus" mean head gives a word hydrochephalos. It is also known as "water on the brain". It may be acquired or congenital (appear at birth). Patients may show difficulty with walking, inability, memory loss, incontinent with urinary. Where on the brain- the much fluid covers and blocks the flow of cerebrospinal fluid and the fluid filled the ventricles of the brain that press down on and damage or destroy brain tissue. The symptom of NPH seems close to Alzheimer disease- like; walking problems and some symptoms of Parkinsons disease. This NPH accounts 5% of all dementias.

6.5 Progressive supranuclear palsy:

A rare brain disorder that causes serious and progressive problems with walking and balance problems, frequent falls, and muscle stiffness, especially in the neck and upper body. It also affects eye movements. It present with cerebellar dysfunction similarly, in some rare cases, the symptoms seems alike of Parkinson disease and sometimes referred to as Steele-Richardson-Olszewski syndrome too. Therefore it (PSP) is often misdiagnosed because between Parkinson's disease, Alzheimer's disease, and rarer neurodegenerative disorders, such as Creutzfeldt-Jakob disease. Due to its less possibility for treatment- it is a life threatening disease to the patients. At first it was described in 1964.

STAGES OF DEMENTIA:

Though there is wide variation in how dementia progresses from person to person and also based on the type of dementia, the following guide gives a rough picture of the progression of dementia through 3 stages from mild to moderate to severe.

The features of each stage is given below (Three stage Model)

EARLY STAGE - (Mild degree)

May function independently

Forgetfulness, misplacing things, difficulty in multi-tasking

Some difficulty tracking time, finding the right words and names

Some difficulty and slowing in concentration, decision making and planning

MIDDLE STAGE- (Moderate degree)

Increasing dependency

Symptoms of the early stage get worse, memory gets worse.

Becoming forgetful of recent events and people's names

Difficulty recalling personal information

Losing way even in familiar places

Disorientation

Having increasing difficulty with communication

Needing help with personal care and other activities of daily living

Behaviour changes, including wandering and aggression

LATE STAGE: (Severe degree)

Significant dependency

Early and middle stage symptoms get worse.

Memory disturbances are severe

Difficulty recognizing relatives and friends, may not identify self

Difficulty or unable to communicate

Severe disorientation, becoming unaware of the time and place

Physical functions deterioration, need significant assistance, poor mobility

Behaviour changes that may escalate.

Screening Tools for Dementia

In the clinical praxis, no ideal answer of the best dementia screening instruments with the general practitioners therefore between guidelines and practice in primary care is still a wide gap. In general practice when a person comes with complaining memory problems needs a number of detail tests for strong proof for further diagnosis. A key issue is what dementia assessments scale is appropriate for assessment because there are verities of tools have been discovered [97]. The selection of the most appropriate tools depends on the physician's perception, knowledge and time for each test. Even though these following tools are commonly found easy to administer, effective, clinically acceptable and minimally affected by gender, ethnicity and education [98]. Mostly these test will diagnose in four ways like; cognitive power, recovering power, recalling power and motor activity. However, many pieces of researches argue that the diagnostic methodologies make the difficult for accuracy of screening test of dementia. Additionally the screening instruments are in limited level to examine in huge number of population. APA (2000) has suggested diagnosing the dementia under the base of cognitive impairment and other aspects of clinical fact- impairment functions, behavior disturbances, cost stress and access (APA, 2000). Although the DSIM-IV is the best using tools in US society and it is a more reliable instrument in the current practice globally [99]. Assessment of dementia scales summarized by Sheehan, in different areas, these scales should use according to their areas [98]. For example:

A) Cognition Screening for Dementia

1) Test your memory [100],

2) Six-CIT,

3) Abbreviated mental taste score,

4) Addenbrookes cognitives assessments,

5) Mini-cog [101],

6) Clock drawing,

7) GPCOG

8) Memory impairment screen,

9) Mini-mental test,

10) Montreal cognitive assessment,

11) Cambridge Assessment of Memory and Cognition [102],

12) Longer cognitive assessments.

B) Functional Test:

1) Bristol Activities of Daily Living Scale (BADLS),

2) Instrumental Activities of Daily Living scale,

3) Barthel index [103],

4) Functional Independence Measure,

5) Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE).

C) Behavior Test

1. Neuropsychiatric Inventory,

2. Cohen-Mansfield Agitation Inventory,

3. BEHAVE-AD.

The hospital anxiety and depression scale: Hospital Anxiety and Depression Scale,.

D) Care Burden Scale:

1. General Health Questionnaire, 12-item version [104],

2. Zarit Burden Interview,

E) Over All Dementia Severity:

1. Clinical Dementia Rating scale,

2. Global Deterioration Scale,

3. Clinicians Global Impression of Change (CIBIC-Plus),

Quality of Life Test

Generic measure of health-related quality of life,

A) Dementia-Specific Quality of Life Instrument:

1. Alzheimer's Disease-related Quality of Life scale (QoL-AD),

2. DEMQOL,

B) Depression in Dementia Test:

1. Geriatric Depression Scale (GDS),

2. Cornell Scale for depression [105],

3. Hamilton Depression Rating Scale [106].

C) Other Tests:

Carlson, Abbey, Kocur, Palk, & Parker has summarized the following others tools that might be useful for cognitive evaluation test for elderly.

1.Revised Memory & Behavioral Problems Checklist (RMBPC)

2.Informant Questionnaire on Cognitive Decline in the Elderly (Short Form) (IQ-Code)

3.Caregiver Strain Index: This is used for to identify the strain of carriers with yes- no type of 13 .

4.The Kimberley Indigenous Cognitive Assessment (KICA): This test is valid for older Indigenous Australians.

5.Rowland Universal Dementia Assessment Scale (RUDAS). It is used with the multi- cultural populations in Australasia however an Indian study has proofed to use in outside Australia because it shows useful.

Conclusion :-

Each person’s experience of dementia is different, but always has direct consequences for their physical, social and mental health. The severity is dependant upon the nature and pace of the illness. Although dementia is a terminal condition, people can live up to 10 years after diagnosis.

People with dementia survive an average of four and a half years following their diagnosis. However, age, sex and any existing disability can alter life expectancy, according to the report in the Jan. 11 online issue of the British Medical Journal.

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