

## Experience in Chennai Memory Clinic

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### Objective

To assess the cognitive impairment in elderly patients

### Material and Methods

A prospective clinical study which included 153 elderly patients who attended the memory clinic for the past 9 months (July 2006 – April 2007) had been taken for preliminary study. After clinical examinations and mental assessment by the psychologist, appropriate drug therapy was given. Patients were advised to come for review once in a month for a total period of three months. MMSE & CDT were done during each visit.

### Observations & Results

In the preliminary study, more males in the age group 70 – 79 years attending memory clinic MMSE – test revealed 70 % mild to moderate cognitive impairment. These patients were likely to be benefited by early intervention with newer drugs. More than one third had normal mental function. Depression was noted significantly in the study and it responded well with the anti - depressants.

## A Study on Elderly Admitted in Critical Care Unit

D Thangam

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About seventy cases of elderly admitted in IMCU and Toxicology unit over a period of six months in our hospital were selected and an analysis of various factors like age and sex distribution, nature of illness, average number of days of stay for various illness factors influencing the outcome were analysed. The reliability of scoring system in predicting the probable outcome was also studied.

## A Clinical Study of Severe Hyponatremia in the Elderly in an Industrial Hospital.

A P Naveen Kumar, M K Tripathy, D V N Sharma & P J V Prasad

**Aim** : To study the clinical manifestations and causes of severe hyponatremia in the elderly admitted into Visakha Steel General Hospital in last one year.

**Study** : All patients above the age of 60 years were included in the study. A sodium concentration of less than 125 mEq/litre was taken as severe hyponatremia. A total number of 24 patients were identified during last one year in the inpatients of Visakha Steel General Hospital.

Males were more affected. Average age of the patients affected was 68 yrs. Hypovolemic hyponatremia contributed to 16 cases. Amongst these, the principal causes were drugs and gastroenteritis. The remaining 6 cases came under hypervolemic hyponatremia contributed by cardiac and hepatic failure. One was SIADH and the other was hypothyroidism. Altered sensorium was the commonest symptom. Vomiting was an important presenting symptom. We had 2 deaths in this cohort. All these patients were managed with either NS, 3% NaCl or fluid restriction as indicated.

### Conclusion

Hyponatremia is a common clinical presentation in elderly persons admitted in the hospital. Drug induced hyponatremia is a common presentation. Early identification and proper management has a good prognosis.

## Evaluation of Pharmacological Interventions on Endothelial Dysfunction and its Biomarkers in Elderly Patients of Type II Diabetes Mellitus.

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## Introduction

Hyperglycaemia leads to increase oxidative stress resulting in endothelial dysfunction. ACE inhibitors, antioxidants, cholesterol lowering with statins and L-arginine supplementation have been shown to improve endothelial function. The purpose of present study was to evaluate the effects of curcumin (herbal antioxidant) on endothelial dysfunction and its biomarkers in patients with type II diabetes mellitus with age group of  $\geq 60$  years and  $> 60$  years.

## Material and Methods

Type II diabetic patients of either sex, after obtaining written ICF were included in this ethically approved study, and were randomized to either **Placebo**-One Capsule BD, **Atorvastatin** 10mg OD (or) **Curcumin**-150mg/soft gel capsule two capsules BD as per prior randomization schedule. Endothelial function assessment was performed using Digital Volume Plethysmography (Salbutamol Challenge Test), Blood was collected for estimations of biomarkers like Malondialdehyde (MDA), Endothelin-1, Interleukin-6 and TNF-alpha. Endothelial function assessments, biomarkers estimations and safety assessments were performed at the baseline and at end of treatment. Paired student "t" test and Anova was used for comparison.

## Results

Total 111 (43 patients with mean age  $> 60$  and 68 patients with mean age  $< 60$ ) completed the study. At base line there was no significant difference between the groups among various parameters tested. In all the groups the change in RI% post salbutamol was less than 6% indicating endothelial dysfunction. Post treatment there was significant improvement in endothelial function in both the age groups with atorvastatin and curcumin treatment. Atorvastatin ( $> 60$  years group,  $8.94\% \pm 3.86$  vs  $4.11\% \pm 3.24$   $p < 0.01$ ,  $\geq 60$  years group,  $9.11\% \pm 4.16$  vs  $4.76\% \pm 3.86$   $p < 0.001$ ), Curcumin ( $> 60$  years group,  $7.86\% \pm 4.65$  vs  $2.91\% \pm 3.12$   $p < 0.01$ ,  $\geq 60$  years group,  $8.92\% \pm 5.73$  vs  $3.71\% \pm 3.21$   $p < 0.001$ ). Similarly, post treatment both the groups showed a significant reduction in the levels of malondialdehyde, endothelin-1, interleukin-6 and TNF-alpha. There were no serious adverse events recorded.

## Conclusion

Type II DM is associated with ED characterized

by an increase in oxidant and inflammatory biomarkers. Atorvastatin and curcumin significantly improved endothelial function in both aged group patients, however the level of significance was more in patients of age group  $\geq 60$  years. Curcumin had favorable outcome in ED associated with reduction in levels of biomarkers. Further studies are needed to evaluate the potential long term effects of curcumin and its combination with other herbal antioxidants in the two aged group population.

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## Non-invasive Evaluation of Arterial Stiffness in Elderly Patients with Coronary Artery Disease

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## Introduction

Coronary artery disease (CAD) is associated with a generalized atherosclerotic process that begins in the large arteries. Vascular aging is a natural phenomenon. The stiffness of aorta and other arteries is a potential risk factor for increased cardiovascular morbidity and mortality. Pulse wave velocity (PWV) is a simple, reproducible, and non-invasive measurement which can be used as a robust marker of both arterial stiffness and atherosclerosis in large populations. Change in PWV in the presence or absence of CAD has not previously been established. Furthermore, there have been few direct analyses of the association between PWV and the presence of CAD as evaluated by coronary angiography. Thus, the aim of the present study was to evaluate the arterial stiffness measured through PWV in the presence or absence of CAD, and to advance the hypothesis that PWV can be used as an independent predictor of CAD.

## Material and Methods

Total 188 subjects (68 patients with CAD, 84 patients without CAD but with hypertension, diabetes mellitus, or dyslipidemia; and 36 age-matched controls without these risk factors) were enrolled in the study approved by the IEC, NIMS and all subjects gave their written informed consent to participate. Pulse Wave Velocity was determined non-invasively by PeriScope

(M/S Genesis Medical Systems, Hyderabad, India). One-way ANOVA followed by post hoc Newman-Keuls Multiple Comparison Test was used for statistical comparison.

## RESULTS

Mean age of CAD patients  $66.98 \pm 2.34$  yrs, Non-CAD patients  $67.39 \pm 3.54$  yrs and controls  $66.28 \pm 2.26$  yrs. Weight, BMI, heart rate, diastolic BP were significantly higher ( $p < 0.001$ ) in CAD patients as compared to Non-CAD patients and control groups. Brachial Ankle (BA) PWV & Carotid Femoral (CF) PWV (CAD –  $18.03 \pm 0.51$  &  $12.68 \pm 0.68$  m/sec; Non-CAD –  $15.50 \pm 1.22$  &  $10.57 \pm 0.50$  m/sec; Controls –  $15.15 \pm 0.67$  &  $10.28 \pm 0.48$  m/sec respectively) were significantly higher ( $p < 0.001$ ) in CAD patients verses other two groups. However, BA & CF PWVs in Non-CAD patients were found to be apparently higher but not statistically significant as compared to controls.

## Conclusion

Our study findings emphasize the importance of PWV in identifying the vascular damage in the aged. Increased PWV was found to be a good independent predictor of cardiovascular risk.

## Comprehensive, Continuous and Integrated Geriatric Health Care at BARC

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The continuous ongoing ageing process of the population throughout the world has given new dimensions to Geriatric Medicine. Current indications are that the population ageing is taking place more rapidly in developing countries than in the developed countries. While it has taken around 120 years for the elderly population to double in Britain from 7 % to 14 %, in India this doubling has been achieved in 25 years. More and more people are serving up to old age, having achieved increased life expectancy. Presently, the age is close to 64 years, resulting in the present estimated geriatric population of around 7% to 8 %. The last two decades have also witnessed a change in the attitude of medical professionals towards elderly and senior citizens. A number of organizations have grown and become operational, both governmental and non-governmental providing provisions, privileges and benefits for the older people.

At our Department of Atomic Energy (DAE), geriatric care is being rendered by virtue of the Health Scheme, called 'CONTRIBUTORY HEALTH SERVICE SCHEME.'(CHSS). This scheme was introduced in BARC in 1962 by the great visionary, (Late) Dr Homi J Bhabha, the founder of nuclear research program in the country. Although CGHS already existed to take care of central government employees, he felt that a separate health scheme was essential for covering the Scientists, employees and families of DAE. This was scheduled to cater to the serving as well as the retired employees and their dependents, including parents . Beneficiaries were to enjoy the complete health care facilities package. Further, there was supposed to be no limit or ceiling on the cost of the treatment prescribed or provided.

This very thoughtful and noble scheme of CHSS has helped us to have a large geriatric population, of around 19% of people being over 60 years. Of these, 13% are over 65 years. When we compare these figures of statistics on a national level, we observe that it is 2 1/2 times. This can entirely be attributed to the better care facilities being offered to our beneficiaries. Primary health care system of BARC is able to meet the challenges of geriatric population, while the infrastructure of the secondary and tertiary care systems is able to face the challenges of the chronic and disabling non-communicable diseases that are afflicting us. As a geriatric physician at primary and secondary care level, we screen old people to rule out age related chronic diseases like hypertension, cataract, arthritis, CAD, chronic bronchitis, BPH, DM, dyspepsia, depression and hearing impairment. The geriatric care physician essentially focuses on disease management and increasing life span and continuous efforts are in this direction. Our ultimate goal is to achieve a successful and healthy ageing, devoid of diseases and disability.

## Presentation and Treatment of Patients with Heat Stroke - A Rural Experience – Case Study

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The coastal districts of A.P. are very hot in mid summer, with increased incidence of heat stroke.

### Aim

Presentation & treatment of patients with heat stroke and the out come.

### **Inclusion Criteria**

We included patients with elderly age (>60 yrs) in our case study.

### **Exclusion Criteria**

Patients age less than 60 yrs. were excluded from the study.

### **Material & Methods**

We treated 15 patients with heat stroke after doing preliminary investigations like CBC, CBG, ABG, Blood Urea, Creatinine, ECG and Electrolytes. We treated with conventional methods of cooling & supportive therapy.

### **Conclusions**

Out of 15 patients, 14 patients recovered and 1 patient died of ARDS.

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## **Managing Insomnia In Elderly**

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Elderly persons are more prone to primary sleep disorders, medical and psychiatric conditions that cause sleep difficulties. Management of sleep disorders in elderly patients is challenging. Evaluation of insomnia includes thorough medical and psychiatric workup, this being the first step in the management. Effective behavioral and medication treatments exist for treating insomnia, but these treatments have significant limitations. More research is needed to develop, improve and assess medication and behavioral treatments for insomnia in elderly. This attempt is to highlight the same aspects and to emphasize on recent advances in the field.

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## **Psychological Support for Family of Elderly**

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Role of family for elderly population is of utmost importance in any of the Geriatric disorder or problem.

Burden of care on the family members needs to be identified, addressed and psychologically managed. The burden can be great, information can be insufficient and frustrating at times – leading to stage of guilt and despair. Psychological support in the form of good, precise and practical information, interdisciplinary partnership and modifying expectations for new dependency is the need of time. Selecting the interventions for families of elderly need to be individualized, for which a targeted assessment of the family is strongly recommended. This presentation aims to overview the methods, benefits and goals of the psychological interventions.

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## **Pharmacotherapy of Behavioral Disturbance in Dementia**

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Dementia brings a number of psychiatric and behavioral symptoms which are mostly noticeable, embarrassing, distressing and hazardous. The evidence, till date, is still not too robust to allow specific recommendations on drug choice. Atypical antipsychotics are being increasingly used. Acetylcholinesterases also seem to be effective in reducing behavioural disturbance in dementia. Benzodiazepines and SSRIs have doubtful efficacy. Whichever drug is used, one must address timely to target symptoms, 'start low – go slow' strategy and time – limits prescriptions. This presentation overviews the recent concepts in the pharmacotherapy approach for behavioral disturbances in dementia.

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## **Prevalence of Hypertension in Elderly - A Community Based Study**

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### **Background**

Hypertension is a very common condition in elderly and its prevalence increases with age and it is associated with stroke, IHD and many other

complications. Present study was done to know the prevalence of hypertension in our elderly population.

### Observations and Results

1. Total 728 subjects, 257 males and 469 females were included in the study. The mean age of males in our study group was  $66 \pm 5.8$  years and in females it was  $65 \pm 5.7$  years. Male to female ratio was 1:1.4. Most of the elderly were in age group of 60-70 years.

2. Mean systolic blood pressure of male and female were ( $130.9 \pm 21.1$ ) and ( $131 \pm 24.1$ ) mm of Hg and mean diastolic blood pressure were ( $79.5 \pm 11.3$ ) and ( $79.5 \pm 13.5$ ) mm of Hg respectively. In our study overall, 81.48% elderly were suffering from hypertension, 45.7% from prehypertension, 24.74% from stage 1 hypertension, 11.04% from stage 2 hypertension. 24.3% of elderly population had normal systolic blood pressure, 40.2% had systolic prehypertension, 24.6% had stage 1 systolic hypertension and 10.9% had stage 2 systolic hypertension. 40.7% elderly had normal diastolic hypertension, 32.6% of elderly had diastolic pre hypertension, with 18% had stage 1 diastolic hypertension and 8.8% had stage 2 diastolic hypertension. 21.8% elderly had isolated systolic hypertension.

5.5% elderly have isolated diastolic pressure and 53.8% elderly have both systolic and diastolic hypertension.

3. There was statistically no difference between genders or literacy in relation with hypertension. There was statistically no correlation with age. Hypertension is very common in elderly and prehypertension group constitute a major part of it.

### A Retrospective Study on Geriatric Patients Attending Government General Hospital, Kakinada

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### Introduction

As the geriatric population (hence the problems) is increasing day by day, it has been felt to interact for geriatric facilities in a teaching hospital.

### Aims and Objectives

1) To know the number of patients attending the

Government General Hospital, Kakinada in one year.

2) To know the number of patients >60 years attending to Government General Hospital, Kakinada in the same year.

3) To assess the geriatric problems in Government General Hospital, Kakinada with statistical support.

### Material and Methods

The above study was a retrospective study based on available records from medical records department of Govt. General Hospital, Kakinada from January 2001 - December 2001.

### Observations and Results

- Total no. of patients who attended the G.G.H. Kakinada - 2,12,661

- The percentage of patients above 60 years attending the G.G.H. Kakinada.

Males - 0.07% Females - 0.04%

- The percentage of patients above 60 years who attended Medical department - 1.73%

- The geriatric patients attending Medical and Surgical departments, when compared.

p-Value being < 0.0001 Chisquare value 70.94;

- The patients attending Medicine and Orthopaedics Departments, when compared.

p-Value being < 0.05 Chisquare value 3.44; statistically significant

### Recommendations

1. Multi-disciplinary approach at O.P.D. level for the care of geriatric patients is needed.

2. In medical education, due importance to be given to geriatric problems.

3. Keeping in view the statistically significant geriatric patients, facilities to be increased.

### Cognitive Decline in Elderly-A Community Based Study

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## Background

Cognitive decline and dementia are important problem affecting quality of life in elderly and caregivers. Present study was done to know the prevalence of dementia and cognitive decline and its various risk factors in elderly population in eastern U.P.

## Summary

1. Total 726 subjects, 257 male and 469 female were included in the study. The mean age of males in our study group was  $66 \pm 5.8$  years and in females it was  $65 \pm 5.7$  years. Male to female ratio was 1:1.4. Most of the elderly were in age group of 60-70 years.

2. Literacy rate was 12.8% (male 19.3% and female 9.2%).

3. In our study, 39.3% elderly were underweight, 49% were normal, 8.9% were pre-obese, 2.7% were obese. 28.3% elderly were suffering from mild depression and 2.6% from severe depression.

4. In the study 7.2% elderly population had decreased daily activity with 4.3% in single activity, 2.1% in two activity, 0.8% in three activity and 19.8% elderly had decreased instrumental activity of daily living with 12.8% in single activity, 6% in two activity, 1% in three activity, 0.1% in four activity.

5. In the study group, 43% of elderly had HMMSE score lower than 23. Literate people had statistically significant higher mean HMMSE score ( $26.1 \pm 3.9$ ) than illiterate people ( $22.9 \pm 4.9$ ). Male had statistically significant higher mean HMMSE score ( $23.9 \pm 5.1$ ) than female ( $23 \pm 4.8$ ). Underweight ( $22.7 \pm 5.7$ ) and obese ( $23.3 \pm 4.9$ ) had lower mean HMMSE score than normal ( $23.6 \pm 4.7$ ) and pre-obese ( $23.1 \pm 5.8$ ). There was significant positive correlation between BMI and HMMSE. Older people had lower mean HMMSE score than relatively younger (60-69 years  $23.8 \pm 4.8$ , 70-79 years  $22.3 \pm 5.0$ , 80-89 years  $19.66 \pm 6.6$ ). There was significant positive correlation between age and HMMSE. Hypertensive patients had lower mean HMMSE score than non hypertensive (normal  $23.3 \pm 4.9$ , mild  $23.7 \pm 5.0$ , moderate  $23 \pm 5.4$ , severe  $22.8 \pm 4.1$ ). There was no significant correlation between blood pressure and HMMSE. Person having lower HMMSE score have statistically significant lower IADL but not ADL.

6. Prevalence of dementia was 2.74%, male 2.70%, female 2.77% in the study group with Alzheimer (male 1.5%, female 1.5%), vascular (male 1.3%, female

0.6%), others 15%, (male 0%, female 0.6%). Alzheimer dementia common in both sex (male 57%, female 53.6%), vascular dementia common in male (male 42.9%, female 23%), others type of dementia common in female (15%).

7. Study of dementia in community showed that Alzheimer dementia is most common type of dementia, followed by vascular dementia which is more common in male.

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## Can Falls be Prevented in Elderly ?

### -A Physiotherapist's Perspective

#### S Samson Vedamanickam S

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Falls represent a failure of the body to remain upright. Falls in elderly are a major cause of morbidity and mortality. The risk factors for fall are many and can be medical, behavioral, environmental and socioeconomic. In order to prevent falls a comprehensive assessment is essential and includes biomedical, physiological, functional and ecological inputs. We need to know which prevention strategies are most likely to work and would be cost effective. The intervention must be individual tailored, progressive, educational and enjoyable. A collaborative effort by health care professionals is the key to identify risks, developing and initiating an individualized fall prevention plan, evaluating the effectiveness of the plan and revising it as needed. It's the best chance of avoiding what can be a life changing event.

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## Importance of Orthotics in Geriatric Rehabilitation -A Physiotherapist's Perspective

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Orthotics can be constructed to address a multitude of persistent rehabilitation problems in elderly such as weakness, instability, abnormal tone, impaired tissue integrity, bony deformities, joint range limitations, muscle imbalances and pain are some conditions that can be positively influenced through the skillful design and application of orthotics. The orthotics selected should be simple, cost effective, and easy to donning and doffing. The use of orthotics must be integrated

with the appropriate therapeutic plan. Attention should not be directed towards the device itself but in identifying the needs of the individual, correctly matching the device to their needs and instituting a treatment program that achieves the goals of rehabilitation.

A focused team approach will be more successful in meeting the functional needs of elderly population and is particularly pertinent to the variety of challenges presented by the geriatric population.

### **Study of Prevalence of Depression and Associated Factors in Community Dwelling Elderly Population of Western Rajasthan**

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#### **Introduction**

Mental health is a precondition for active and healthy ageing. Depression is the commonest neuropsychiatric ailment which is rising in the elderly. The present study was to find out prevalence of depression and its related modifiable factors.

#### **Material and Method**

This study was a cross-sectional community based health survey of 1000 elderly population of age 60years and above including both urban and rural population of Western Rajasthan. House to house survey was carried out in selected villages and urban area of Jodhpur and Pali district of Rajasthan. Prevalence of depression and associated factors like anemia, smoking, tobacco use, living arrangement and comorbid conditions was studied.

#### **Results**

Out of 1000 study population, 562 (56.2%) elderly were from rural (52.3% males and 47.7% females) and 438 (43.8%) from urban area (58.2% and 41.8%). The prevalence of depression was 37.3%, higher in rural (42.5%) than urban population (30.6%) and it was also higher in females (47%) than males (29.3%). Prevalence of smoking (32.9%) and living alone (28.9%) was higher in elderly having depression than those not having depression (18.8% and 20.4% respectively), while it was similar for tobacco chewing and comorbid conditions like IHD, HTN and anemia.

#### **Conclusion**

Depression was very common though underdiagnosed entity in elderly population of Western Rajasthan and is higher in rural population and in females.

### **Evaluation of Risk Factors of Athero-vascular Disease in Elderly Population of Western Rajasthan**

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#### **Introduction**

Athero-vascular diseases are emerging as the important cause of morbidity and mortality in developing nations. Since atherosclerosis is a generalized macrovascular disease, lesions in one vascular territory can predict disease in other arterial regions. The study was carried out to identify the risk factors and risk stratifications for athero-vascular diseases in elderly population.

#### **Material and Method**

The present study was a cross-sectional study involving 136 subjects who attended Medical OPD at MDM Hospital Jodhpur. Subjects were evaluated for risk factors for atherosclerosis as calculated by "Global Risk Assessment Tool" derived from "The Framingham Heart Study".

#### **Result**

Out of 136 subjects, 42.6% from rural and 57.4% from urban. Male-female distribution was 62.5% and 37.5% respectively. 22.8% were asymptomatic at the time of survey. Among males 47.5% were smokers and 29.4% tobacco chewers, while among females 21.65% were tobacco chewer and only 2% smokers. The prevalence of obese subjects (BMI $\geq$ 25.0) was 33.1%, while prevalence of central obesity was 55.1% as per waist hip ratio. Ankle brachial index was  $<$ 0.9 in 23.5%. High cholesterol was present in 14.7% while low HDL in 66.2%. The high risk of athero-vascular diseases on the basis of global risk assessment tool was 62.5 % which was higher in males (67.1%) than females (54.9%).

#### **Conclusion**

The Western Rajasthan population has a high risk of athero-vascular diseases which require interventions at community level to reduce it.