



Day Care Centres of Active Ageing and Effect on NCDs

Dr. Prabha Adhikari

Dr TMA Pai Endowment Chair in
Geriatrics and Gerontology

KMC, Mangalore,
Manipal University

Introduction

- ▶ Geriatric patients –Chronic disease burden
- ▶ Psychosocial issues,economic
- ▶ Clog physicians clinic by frequent visits
- ▶ Physicians precious time wasted,cost
- ▶ Cannot concentrate on emergenciesand needy
- ▶ My own elders in the family

Active ageing Makes a difference



Thus was Born....KMC Chaithanya2002 –14 members –in a room



- ▶ 1.To provide day care for the sick elderly
- ▶ 2.To promote active ageing by exercise,yoga, healthy drink
- ▶ 3.To use their expertise for teaching
- ▶ 4.To create opportunities for new learning
- ▶ 5.To provided job opportunities for the needy elderly
- ▶ 6.To create opportunities for social service

Founder Members –2002



Types of Exercise Training

- ▶ Mobility Exercises
- ▶ Resistance Training
- ▶ Aerobic Exercise
- ▶ Yoga
- ▶ Aerobic exercise using bicycle or treadmill
- ▶ Walking
- ▶ Dancing
- ▶ Brain exercises
- ▶ Kiegel's Exercise

Who could become members

- ▶ Any senior citizen healthy or sick
- ▶ Any body with chronic life style diseases
- ▶ Anybody who wants to age actively
- ▶ Membership fee of Rs500/life time
- ▶ Or Annual membership Rs 100

Activities other than exercises

- ▶ **Other activities tried in the centre:**
- ▶ 1.Computer learning
- ▶ 2.Teaching medical students local languages
- ▶ 3.Teaching children with learning disabilities
- ▶ 4.Painting pots,making greeting cards
- ▶ 5.Medicinal plant garden
- ▶ 6.Library of used magazines
- ▶ 7.Juice and tube feeding centre for patients
- ▶ 8.Fruit stall for patients
- ▶ 9.Shop for sale of items needed by patients and students
- ▶ 10. visit to various homes for the aged, centres for challenged children

Other activities

- ▶ BP ,check monthly sugar test for diabetics
- ▶ Educative lectures
- ▶ Annual day ,National days ,Festivals
- ▶ Creativity
- ▶ Latest hobby– group walking

Add on centres

- ▶ Centre for basic sciences
- ▶ 7 more centres added
- ▶ Needs of nearly 1200 senior citizens

Exercise type varied



8 centres–KMC Chaithanya Club – Spoorthi Hub



12 years of regular exercise



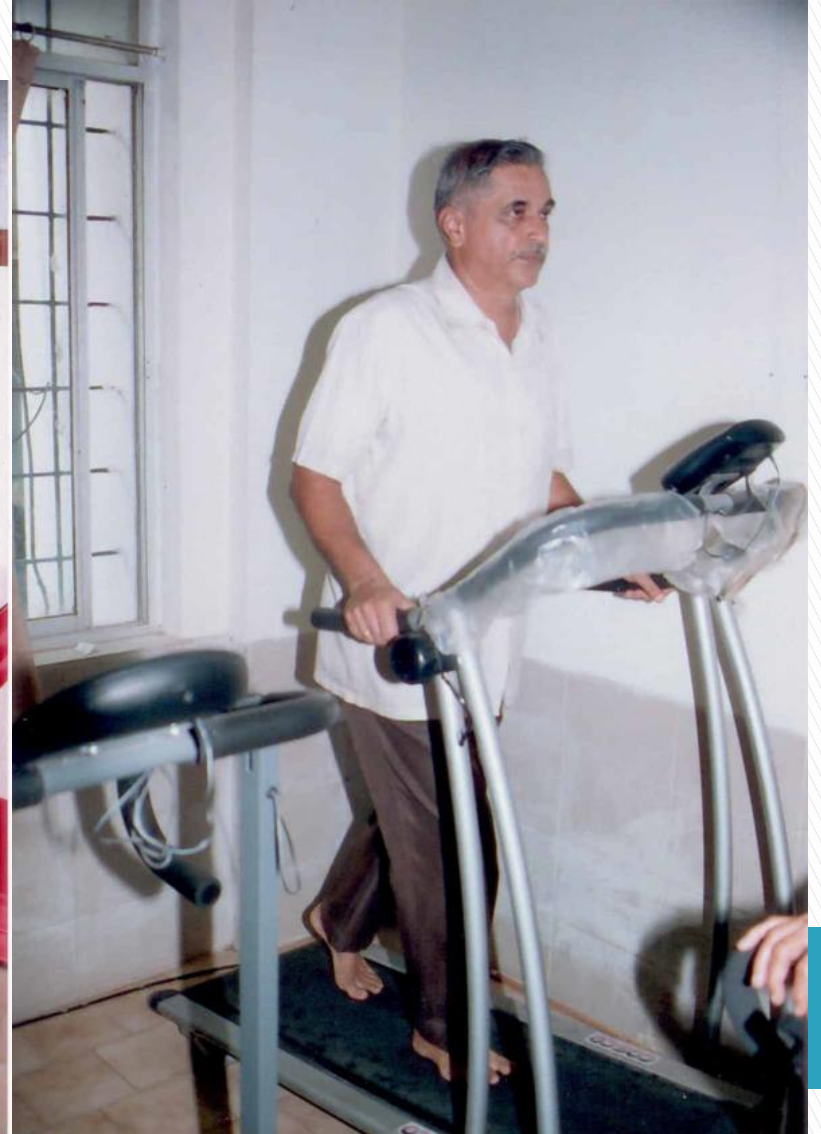
Effect of yoga-prevention of progression



Daily Exercise



Reversal of Diabetes and its complications



Reversal of Diabetes for 12 years





Dancing



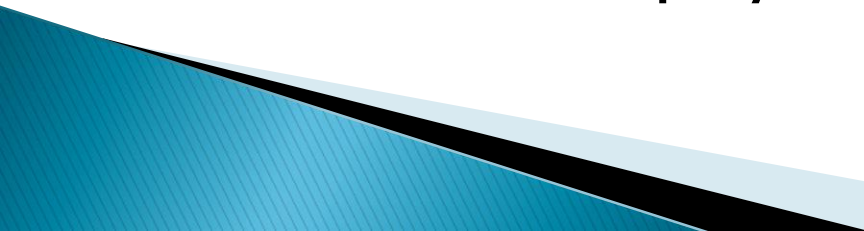
Resistive Exercises



Walk



Results –Effect on diabetes,hypertension ,dylipidemia

- ▶ Prevention of progression for 12 years
 - ▶ Reversal of diabetes–Aerobic exercise –4
 - ▶ Reversal of complications –PVD,IHD,CCF –6
 - ▶ Reduction in HbA1c
 - ▶ Improvement in Heart rate variability
 - ▶ Improved lipid goals,blood pressure goals
 - ▶ Reduction in physician visits
- 


Benefits

- **Effect of supervised integrated exercise on heart rate variability in type 2 diabetes mellitus.**
 - [Bhagyalakshmi S](#), [Nagaraja H](#), [Anupama B](#), [Ramesh B](#), [Prabha A](#), [Niranjan M](#), Shreedhara A- Kardiolog Pol. 2007 Apr;65(4):363-8; discussion 369.
- **Increase in the heart rate variability with deep breathing in diabetic patients after 12-month exercise training.**
 - [Sridhar B](#), [Haleagrahara N](#), [Bhat R](#), [Kulur AB](#), [Avabratha](#)

Effect of Stretching and Aerobic Exercise on Type II Diabetes(n48)

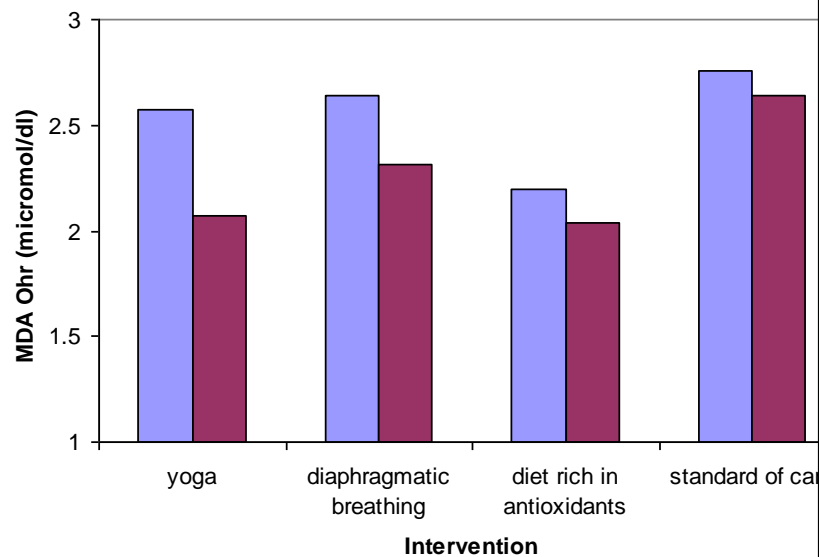
Parameters	Control(20)	Exercise(28)
FBG Baseline mmol	10.68 \pm .69	11.21 \pm 1.21
After 9 months	11.51 \pm 1.23**	9.52 \pm 1.02**
HbA1C baseline	8.64 \pm .64	8.58 \pm .42
HbA1C 9months	8.93 \pm .44*	7.18 \pm .25**
HRV(beats/min) Baseline	14.85 \pm 1.15	13.03 \pm .08
After	14.3 \pm 1.75*	16.5 \pm 1.11**

Effect of Yoga and supervised integrated exercise on Hypertension

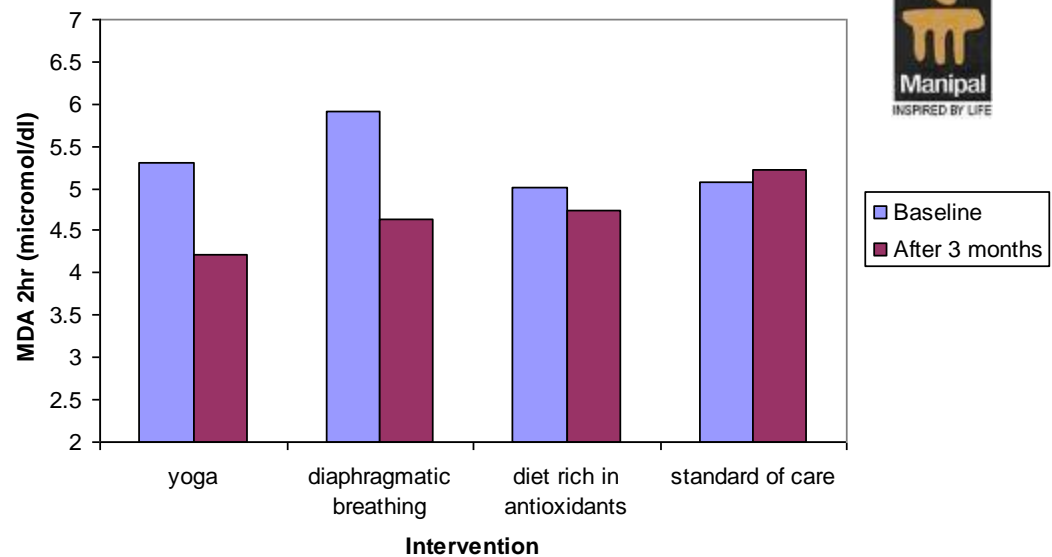
- Effects of yoga and supervised integrated exercise on heart rate variability and blood pressure in hypertensive patients J.Chinese Med 2009
 - Exercise improved both HRV and BP, Yoga did not improve both but prevented progression, combined interventions achieved both.
 - Male hypertensives did better
- 



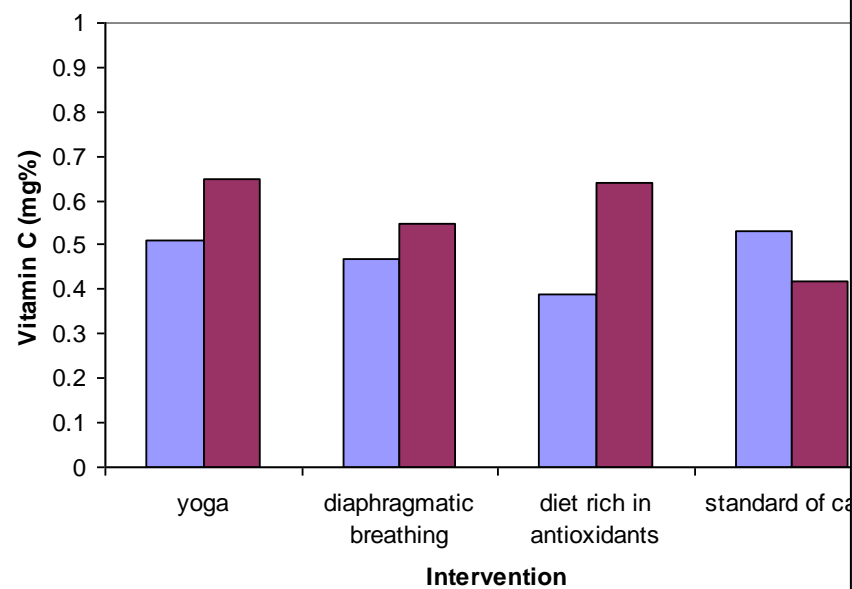
MEAN MDA '0' HOUR



MEAN MDA '2' HOUR



MEAN VITAMIN C



MEAN GSH

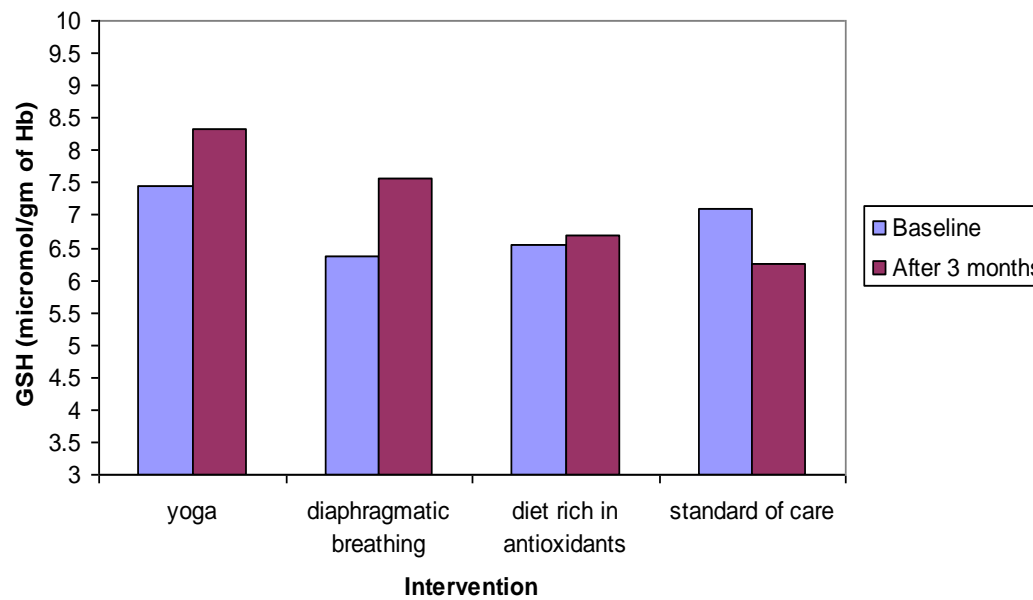


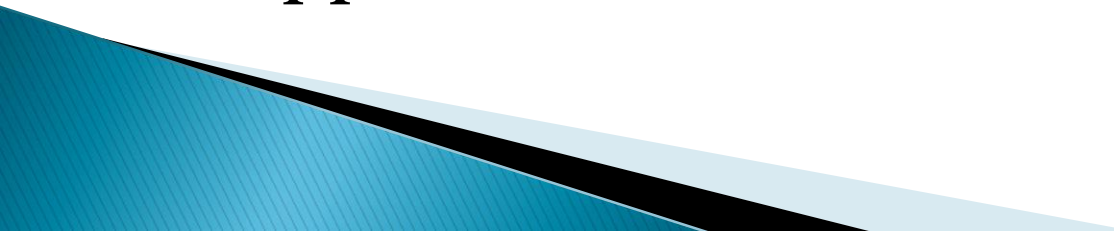
Table showing effect on NCDs/age related disorders by questionnaire

Morbidity	Number	Improved -N(%)
Diabetes	37	18(49%)
Hypertension	33	20(60%)
Dyslipidemia	43	15(30%)
Memory loss	16	7(43%)
Musculoskeletal	28	28(100%)
Depression	14	14(100%)
Imbalance	21	19(90%)
Anxiety	10	10(100%)
Insomnia	25	19(76%)
Constipation	21	19(90%)
Obesity	28	15(54%)

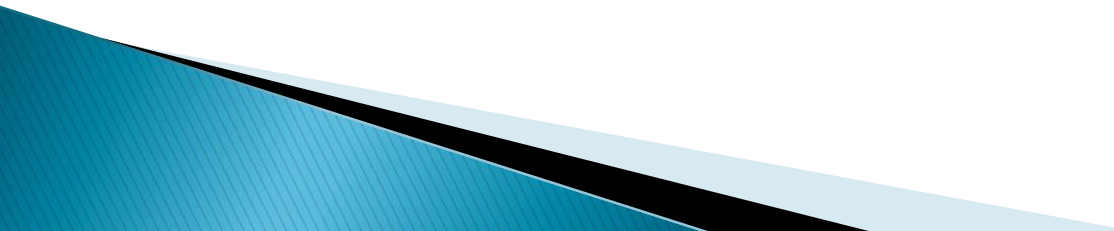
Diabetes ,BP ,and Lipid targets

- ▶ Drug dosages decreased , number of drugs decreased in the member group
- ▶ Regular check up controls– drug dosages and number of drugs increased
- ▶ No difference in HbA1C, Lipid profile and Blood pressure control ($7.54 \pm .72$ Vs $7.63 \pm .81$)

Effect on fitness compared to walking controls

- ▶ Flexibility
 - ▶ Balance
 - ▶ Strength
 - ▶ 6 minute walk test
 - ▶ Reaction time
 - ▶ Timed up and Go test
 - ▶ All were equal in both groups but increased happiness and decreased loneliness
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Conclusions

1. Day care centres based on exercise and regular check up promotes active ageing
 2. Improves diabetes ,prevents progression,
 3. Reduces blood pressure
 4. Reduces lipids
 5. Decreases drug dosages
 6. Improves musculoskeletal symptoms
 7. Addresses geriatric giants –Imbalance, Depression ,Memory and Incontinence
- ▶ This model of care can be replicated all over India to keep the elderly happy and healthy and is cost effective
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Active Ageing Makes a difference



Arise Awake and Exercise.....



Stop not till goal is
reached

