IMPORTANCE OF COMPREHENSIVE GERIATRIC ASSESSMENT IN CANCER IN ELDERLY– *AN INDIAN PERSPECTIVE*

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INTRODUCTION

- Cancer in the ageing population   -   The problem scenario

- The cancer — ageing interface

- Challenges of cancer in ageing population

- Difference in the views of the oncologist and the geriatrician

- CGA

- Importance of new tools for cancer assessment

- Summary

GLOBAL BURDEN OF CANCER

- **Cancer   - Leading cause of death in developed countries, second in developing countries**

  - World Health Organization. – The Global Burden of Disease : 2010

- **Increasing trends, aging & growth, risk seeking behaviour**

  -Jemal et al, Global cancer statistics, 2011

- **12.7 million cases, 7.6 million cancer deaths**
  (56% cases, 64% deaths - in economically developing)

  - Globocan - 2010stats

CANCER AND AGEING

- **Approximately 60 percent of new cases and 70 percent of mortality from cancer occur in patients ≥ 65 years of age**

  - Yancik R, et al : Aging and cancer in America: 2000

- **Probability of a diagnosis / mortality - 11 times and 15 times more in >65yrs age group**

  - Ries et al, SEER cancer statistics review , 2000

CANCER AND AGEING

Indian scenario

- **It has been predicted that there will be 4,50,000 older men & 3,70,000 older women with cancer in India**

- **>25% cancers occur in 60 yrs and above**

  - *Nandakumar A. - National Cancer Registry Programme (NCRP), Indian Council of Medical Research. 2001 Aug*

  - *Agarwal SP, Rao YN, Gupta S. - National Cancer Control Program (NCCP) 1st ed. 2002. Fifty years of cancer control in India;*

PERSPECTIVE OF AGE

Young Cancer Patients

- Single serious condition dominates the clinical picture

- Tolerates acute, severe side effects relatively well

- Main goal – Survival / Cure

Old Cancer Patients

- Co-exists with multiple illnesses and significant disability

- Variable tolerance, tailoring Rx required

- Main goal – Survival / QOL

CHALLENGES TO EFFECTIVE TREATMENT

- **Functional decline**

- **Fall of physiological reserves**

- **Co-morbidities**

- **Geriatric syndromes**

- **Psychosocial issues**

- **Age bias**

- **Lack of evidence base**

GOALS OF TREATMENT

- **Cure**

- **Prolongation of survival**

- **Prolongation of active life expectancy**

- **Effective symptom management
  Palliative / Supportive care**

- **To "do no harm"**

- **Maintain QOL**

- Siegel, Rebecca et al. "Cancer treatment and survivorship statistics, 2012." .

WHAT ARE THE IMPORTANT ISSUES FACED BY GERIATRICIANS

- **Is the patient going to die of, or with cancer?**

- **Life expectancy?**

- **Able to tolerate treatment?**

- **Are these complications more common in elderly?**

- **Adequate social support to see through treatment?**

TOLERANCE TO TREATMENT

- **Decision usually made on basis of chronological age .**

- **Chronological age ≠ Physiological age**

LIMITED ONCOLOGY EVIDENCE BASE

- Poor recruitment of older adults into clinical trials.

- Limited # of older adults even in many large trials to facilitate subgroup analyses

- Highly selected older adults in clinical trials limited comorbidity, not disabled / frail

Examining the Evidence: A Systematic Review of the Inclusion and Analysis of Older Adults in Randomized Controlled Trials Zulman et al, Journal of General Internal Medicine, July 2011

AGE BIAS

- **Systematic discrimination against people simply on the basis of age**

- **Often synonymous with inappropriate (under) treatment**

- **Studies have shown**
    - **- Inadequate screening**
    - **- Incomplete investigation of the malignancy**
    - **- Diagnostic delays**
    - **- Suboptimal treatment**

- Townsley et al,2005, Zulman et al,2011

HUMAN RIGHTS

"The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political beliefs, economic or social condition."

- WHO Constitution Preamble

TRADITIONAL ASSESSMENT TOOLS USED IN ONCOLOGY

The performance status scales

❖   **ECOG**

❖   **Karnofsky**

✓**Only functional issues**

✓**Not age specific**

✓**Not validated in geriatric population**

ECOG PS SCALE

0   Fully active, able to carry on all pre-disease performance without restriction.

1   Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light house work, office work.

2   Capable of only limited self-care, confined to bed or chair more than 50% of waking hours.

3   Capable of only limited self-care, confined to bed or chair more than 50% of waking hours.

4   Completely disabled. Cannot carry on any self-care. Totally confined
to
    bed or chair.

5   Dead

KARNOFSKY'S PERFORMANCE STATUS SCORE

Able to carry on normal activity and to work; no special care needed.	100	Normal no complaints; no evidence of disease.
	90	Able to carry on normal activity; minor signs or symptoms of disease.
	80	Normal activity with effort; some signs or symptoms of disease.
Unable to work; able to live at home and care for most personal needs; varying amount of assistance needed.	70	Cares for self; unable to carry on normal activity or to do active work.
	60	Requires occasional assistance, but is able to care for most of his personal needs.
	50	Requires considerable assistance and frequent medical care.
Unable to care for self; requires equivalent of institutional or hospital care; disease may be progressing rapidly.	40	Disabled; requires special care and assistance.
	30	Severely disabled; hospital admission is indicated although death not imminent.
	20	Very sick; hospital admission necessary; active supportive treatment necessary.
	10	Moribund; fatal processes progressing rapidly.
	0	Dead

GERIATRIC ASSESSMENT TOOLS

- Comprehensive Geriatric Assessment

  - Functional
  - Psychological
  - Nutrition
  - Co-morbidity
  - Geriatric syndromes
  - Poly-pharmacy
  - Social support

  ✓ Time taking (60-90 min)
  ✓ Multidisciplinary approach
  ✓ Limited consensus regarding methodology, evaluation and utilization

"A multidisciplinary diagnostic process intended to determine a frail elderly person's medical, psychosocial, and functional capabilities and limitations in order to develop an overall plan for treatment and long-term follow-up"

Rubenstein, 1982

CGA –REVIEW OF LITERATURE

There are at least four good reasons for an oncologist to obtain a CGA

Wildiers H et al Comprehensive geriatric assessment (CGA) in older oncological patients: why and how? J Geriatric Oncol 2012

(i)   CGA has important prognostic information that can be helpful in estimating life expectancy, which is of paramount importance when making treatment decisions

(ii) CGA can predict toxicity or decrease in quality of life (QoL) enabling a more targeted use of preventive measures

(iii) CGA can reveal previously unknown geriatric problems

(iv) CGA allows targeted interventions, which can improve QoL and compliance to therapy.

PRESENT STUDY

Aims and Objectives

- Socio-demographic profile of older cancer patients

- Profile of co-morbidities , Geriatric syndromes and social support in older cancer patients.

- Effect of cancer on various domains –

  Functional

  Psychological

  Nutritional

PRESENT STUDY

Inclusion Criteria

- Patients 60 yrs of age and above

- With a tissue diagnosis of cancer

- Consent to take part in the study.

- Treatment naïve cases.

Exclusion Criteria

- Very sick or moribund patients

- Not willing to give consent for the study

- Patients in whom some form of treatment for cancer has started.

STUDY DETAILS

- Study design:

    Cross sectional, observational

- Place:

    Department of Geriatric Medicine , AIIMS, New Delhi

- Sample:

    141 patients with proven tissue diag

- Time:

    1 year (Jan 2013 – Dec 2013)

TOOLS USED FOR GERIATRIC ASSESSMENT

- Functionality

  ADL (Katz)

  IADL (Lawton)

- Depression

  GDS

- Cognition

  MMSE

- Nutrition

  MNA

- Co-morbidities

- Geriatric Syndromes

- Polypharmacy (present / absent)

- Social support (present / absent)

ADL AND IADL's

- Bathing
- Dressing
- Toileting
- Feeding
- Transferring
- Continence

Katz (1963) JAMA 185:914

- Telephone
- Shopping
- Food preparation
- Housekeeping
- Laundry
- Transportation
- Medications
- Finances

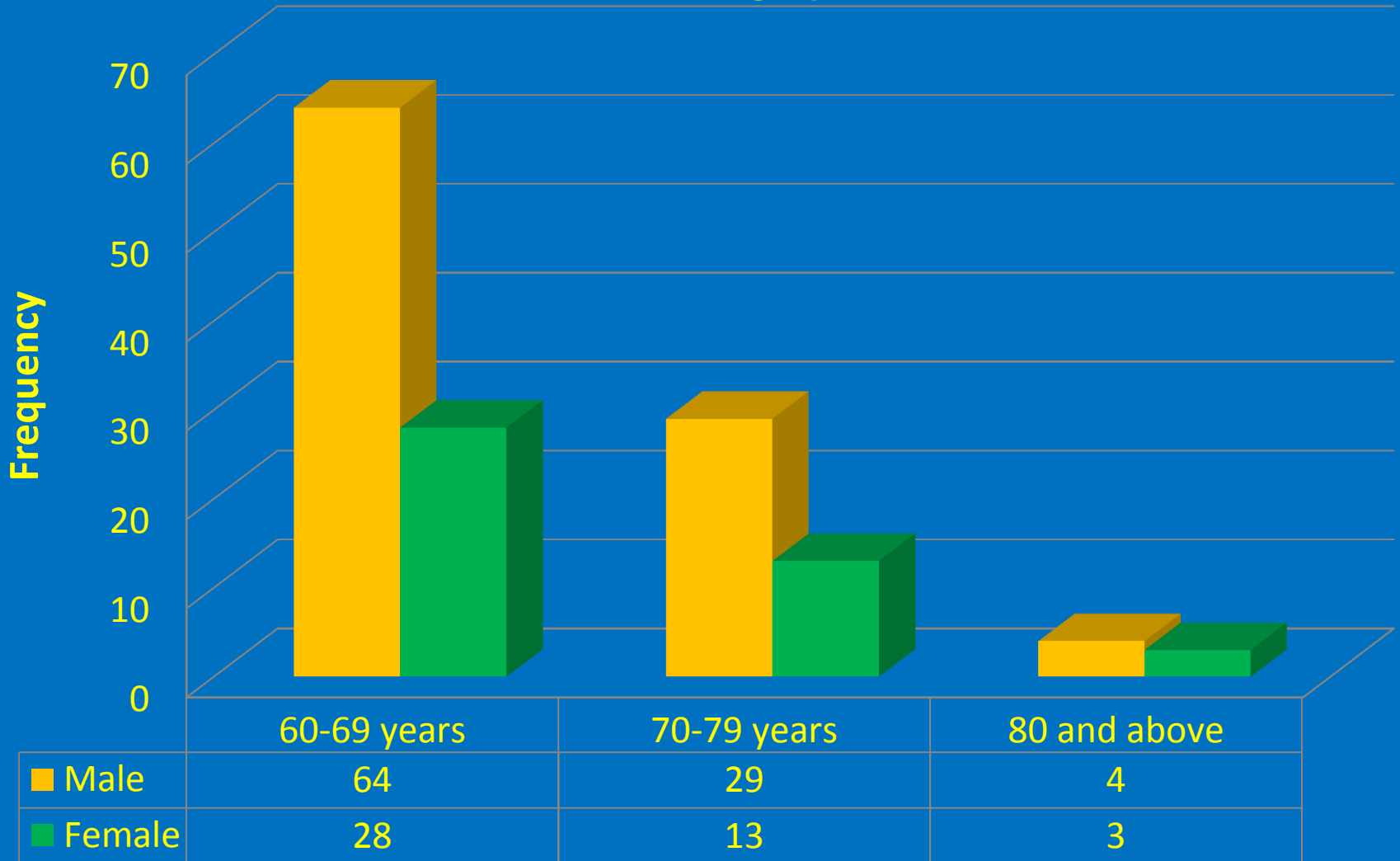Lawton-Brody (1969) Gerontologist 9:179

DEMOGRAPHIC DATA

		Frequency	Percentage
Education	Illiterate	60	42.5%
	Primary Education	24	17.0%
	Up to 12	46	32.6%
	Graduate and above	11	7.8%
Occupation	Unemployed	42	29.7%
	Employed	23	16.3%
	Farmer	34	24.1%
	Retired	42	29.7%
Living status	Alone	10	7.0%
	With spouse	25	18.0%
	With family	106	75.0%
Marital Status	Married	115	81.5%
	Single	10	7.09%
	Widower/widow	16	11.34%
Addictions	Present	98	69.5%
	Absent	43	30.5%
Socio - economic status	Upper class	6	4.3%
	Upper middle	37	26.2%
	Lower middle	58	41.1%
	Lower class	40	28.4%

AGE PROFILE

Frequency, 80 and above, 7, 5%

60- 69 years

Frequency, 70- 79 years, 42, 30%

70- 79 years

80 and above

Frequency, 60- 69 years, 92, 65%
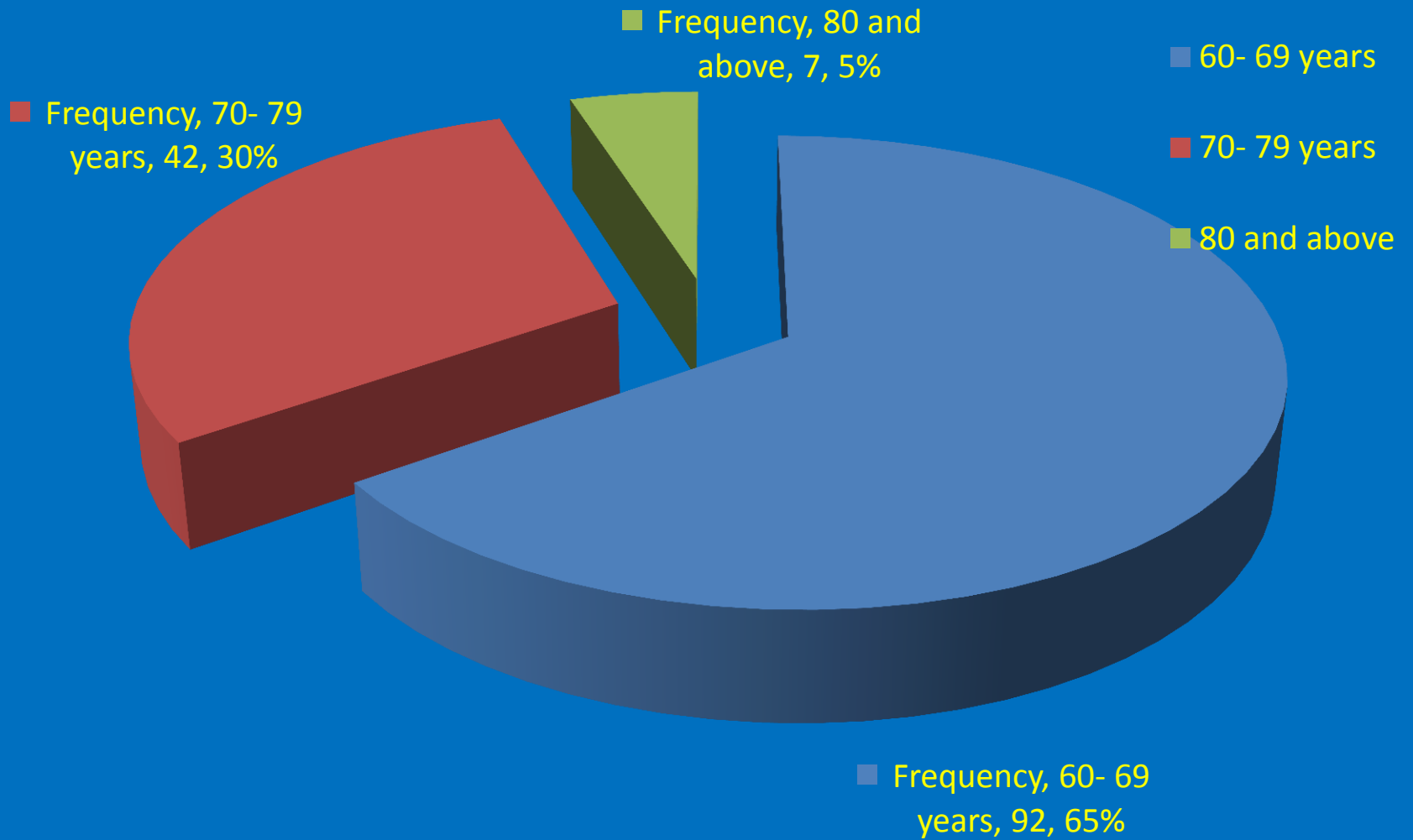
GENDER WITH AGE PROFILE

Gender with Age profile

	60-69 years	70-79 years	80 and above
Male	64	29	4
Female	28	13	3

FUNCTIONAL STATUS

Normal
22%

ADL normal,
IADL imp
40%

Both impaired
38%
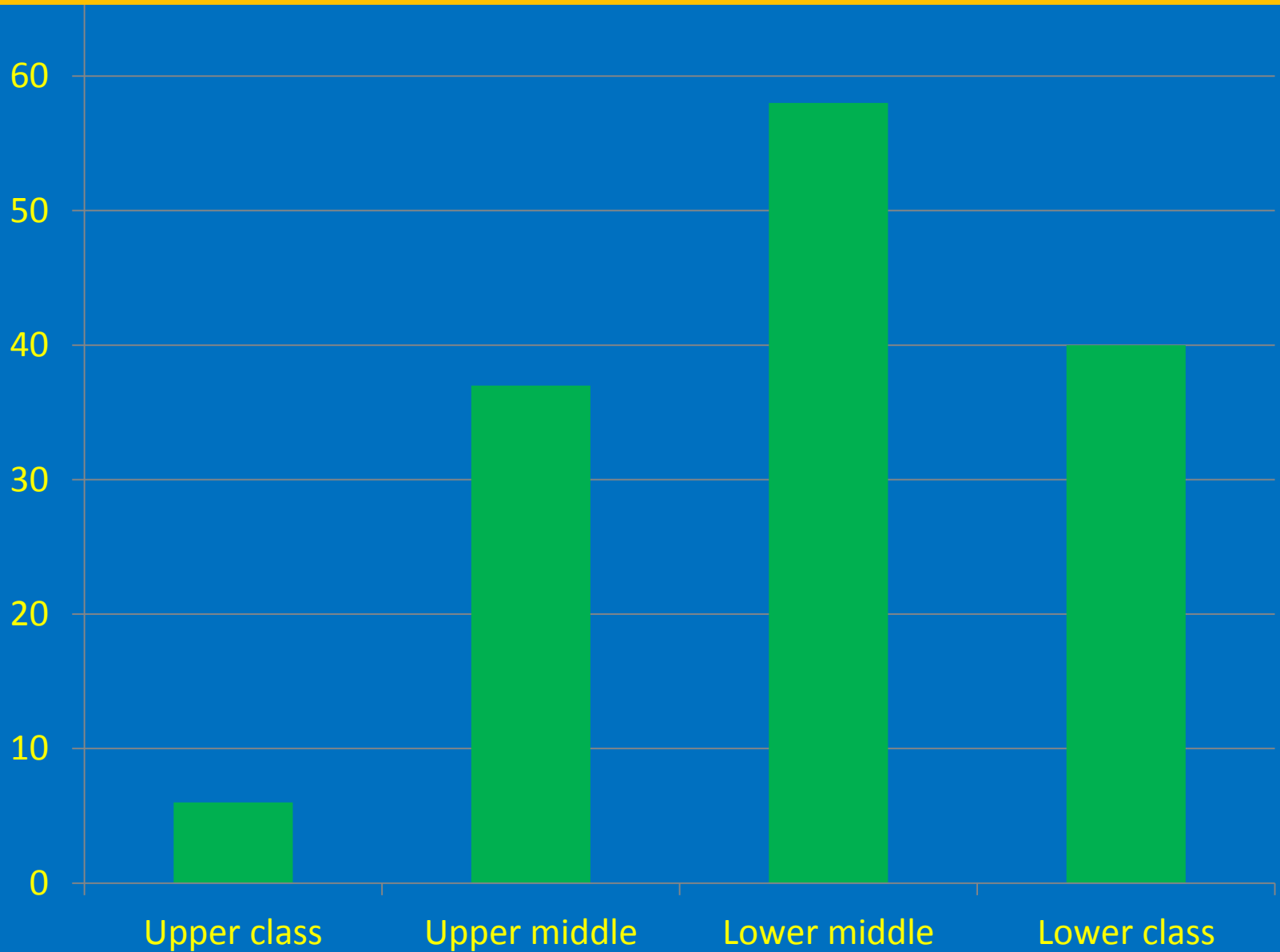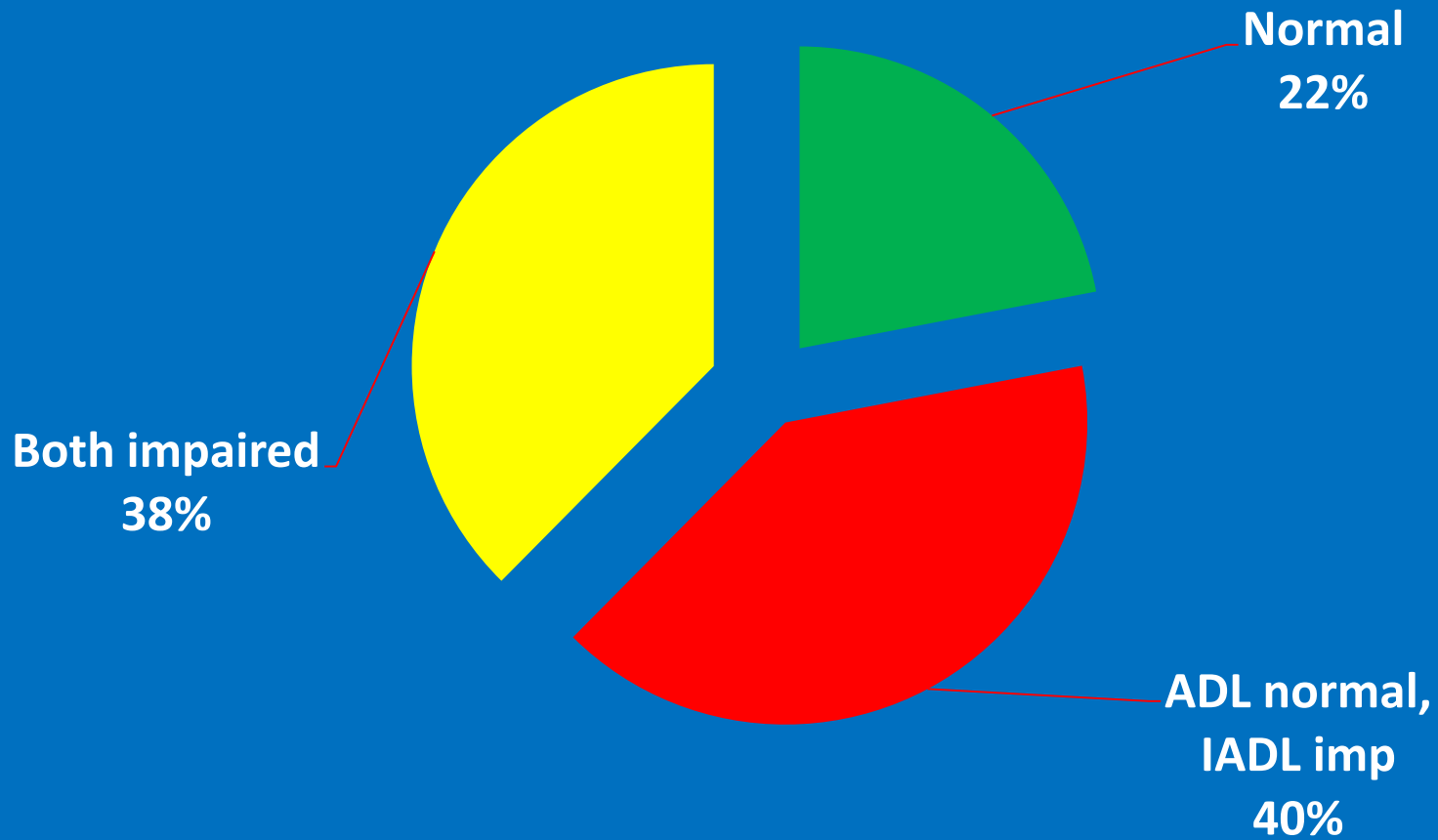
FREQUENCY OF CANCERS BY SITE
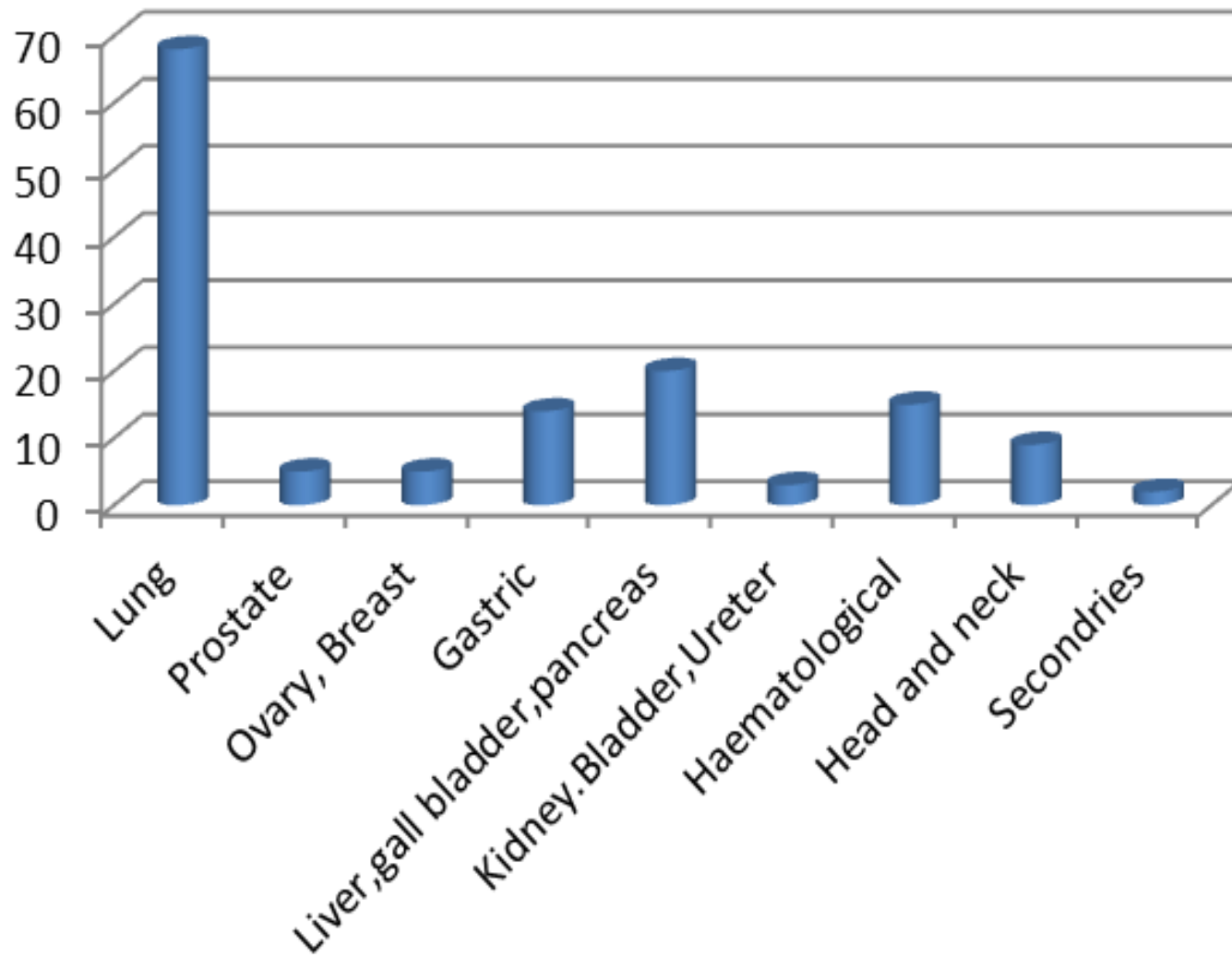
CO-MORBIDITIES WITH CANCER

Frequency (%) of Co-morbidities

Co-morbidity	Frequency (%)
HT	30.5
Diabetes	19.1
COPD	18.4
Gastric problem	7.8
CAD	7.1
TB	6.5
Renal Problems	5
Arthritis	4.3
Psychiatric history	2.8
Neurological Problems	2
Motor dys	1.4
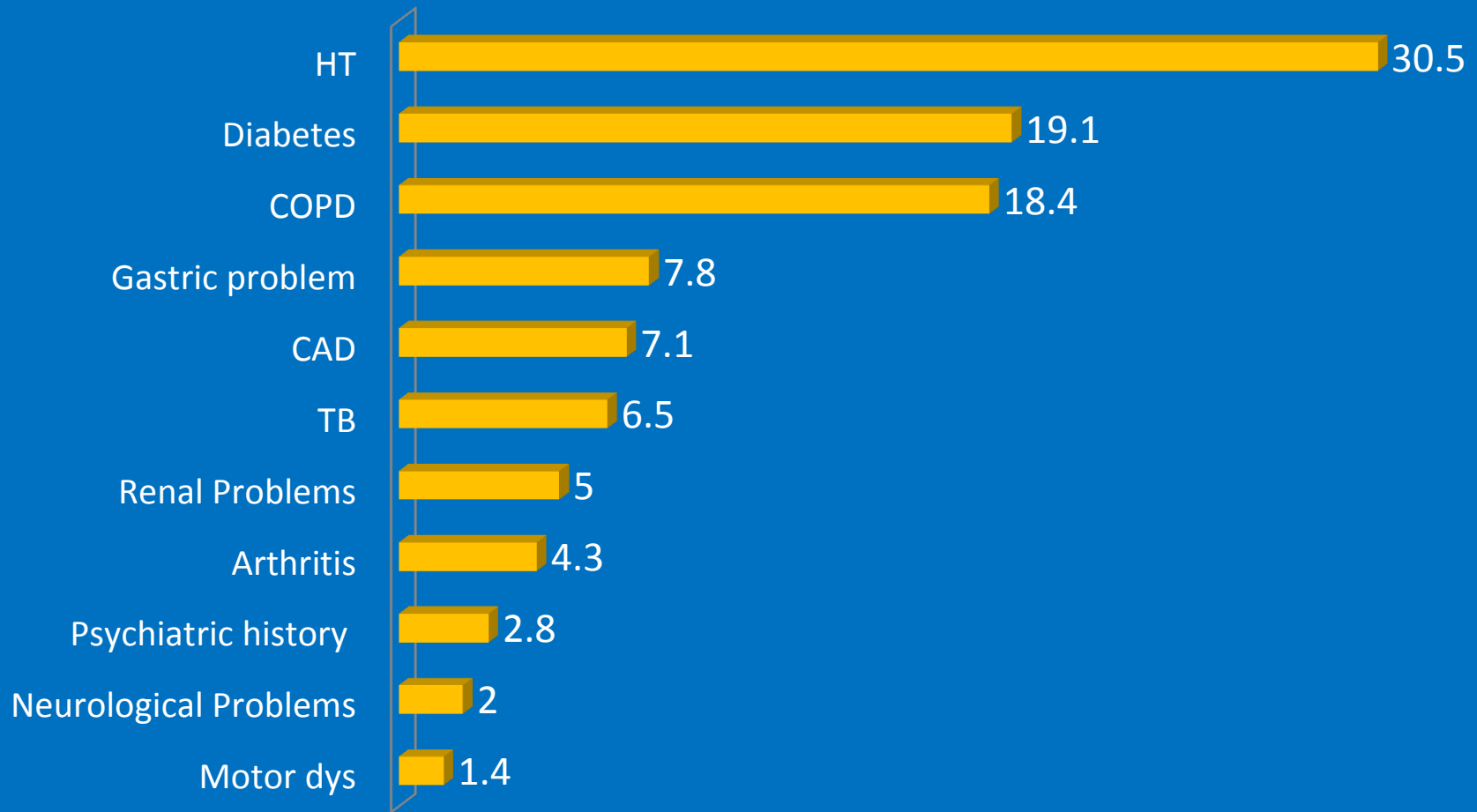
NUMBER OF CO-MORBIDITIES PER PERSON
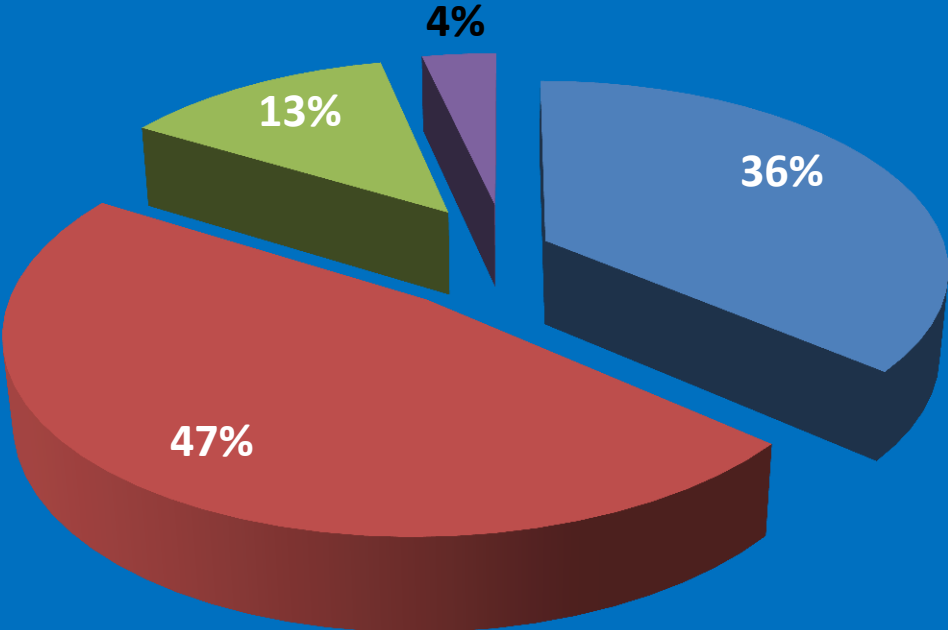
ANAEMIA AND NUTRITIONAL STATUS

ANAEMIA	**NORMAL HB>13GM%(MALE)>12GM%(FEMALE)**	**34**	**24.1%**
BMI	MILD- 11-12.9(MALE), 11-11.9(FEMALE)	84	59.6%
	MODERATE- 8-10.9	17	12.1%
	SEVERE- <8GM%	6	4.3%
	UNDERWEIGHT<18.5KG/M	74	52.5%
	NORMAL-18.5-24.9	55	39%
	OVERWEIGHT->25	12	8.5%
NUTRITIONAL STATUS(MNA)	NORMAL>23.5	32	22.7%
	AT RISK OF MALNUTRITION (17-23.5)	49	34.75%
	MALNUTRITION<17	60	42.55%

COMPARISON IN PATIENTS WITH /WITHOUT MALIGNANCY

- Data from 100 pts (without cancer) were taken from OPD records (cluster sampling)

- Demographic data and co-morbidities

- FS, Dep, BMI and Anemia

DEMOGRAPHIC DATA
Cancer/without cancer

		With Cancers (141)	No Cancer (100)	p-Value
Age Profile	60 To 69 Yrs	92(65%)	76(76%)	0.131
	70 To 79 Yrs	42(30%)	17(17%)	
	80 And Above	7(5%)	7(7%)	
Gender	Male	97(68.7%)	51(51%)	0.025
	Female	44(31.2%)	49(49%	
Addictions	No Addictions	43(30.5%)	59(59%)	0.002
	Addiction	98(69.5%)	41(41%)	
Addiction status	Never	42 (30%)	58(58%)	0.000
	Former	35(25%)	29(29%)	
	Current	63(45%)	13(13%)	
BMI	Under Weight	74(52.5%)	10(10%)	0.000
	Normal	55(39%)	63(63%)	
	Over Weight	12(8.5%)	27(27%)	
SES	Upper	6 (4.3%)	2(2%)	0.014
	Upper Middle	37(26.2%)	29(29%)	
	Lower Middle	58(41.1%)	63(63%)	
	Lower	40(28.4%)	5(5%)	

CGA-CANCER/WITHOUT CANCER

		With cancer(141)	Without cancer(100)	P - value
No. of co morbidity	No Comorbidity	51(36%)	61(61%)	0.148
	1 -2 Co morbidities	66(47%)	29(29%)	
	3 - 5 Co morbidities	18(13%)	10(10%)	
	> 5 Co morbidities	6(4%)	0(0%)	
Anemia	Normal	34(24%)	54(54%)	0.000
	Anemia	107(76%)	46(46%)	
Functional status	Normal	31(22%)	35(85%)	0.000
	ADL Normal, IADL Impaired	56(40%)	4(10%)	
	Both Impaired	54(38%)	2(5%)	
Cognition	Normal	124(88%)	96(96%)	0.02
	Impaired	17(12%)	4(4%)	
Depression	Normal	47(33%)	68(68%)	0.000
	Depressed	94(67%)	32(32%)	
Polypharmacy	No Medicine	44(31%)	12(12%)	0.05
	5 or less	90(64%)	83(83%)	
	>5 Meds	7(5%)	5(5%)	
Geriatric Syndromes	No Syndromes	69(49%)	23(56%)	0.374
	1-2 Syndromes	47(33%)	15(37%)	
	3-5syndromes	20(14%)	3((7%)	
	>5	5(4%)	0(0%)	
MNA	Normal	28(20%)	69(69%)	0.000
	Risk Of Malnutrition	45(32%)	24(24%)	
	Malnutrition	8(48%)	7(7%)	

KARNOFSKY'S PERFORMANCE STATUS SCORE

Performance	KPS Score	Patient data
Able to carry on normal activity and to work; no special care needed.	80- 100%	37(26%)
Unable to work; able to live at home and care for most personal needs; varying amount of assistance needed.	60-70%	63(45%)
Unable to care for self; requires equivalent of institutional or hospital care; disease may be progressing rapidly.	0-50%	41(29%)

CONCLUSION

- Low SES, illiteracy and addictions-major scourges

- A strong family system - a boon

- Functional decline, malnutrition and Depression – major issues

- Co-morbidities, GS and poly-pharmacy cannot be overlooked

- PS scores do not give a full picture of performance status, ADL / IADL gold standard

SUMMARY

- Number of older persons with cancer expected to significantly increase because of the overall aging of the population.

- Present great challenges to all components of the health care systems.

- CGA (gold standard) - should complement traditional oncology tools.

- Screening tools - Simple, culturally relevant

- Stratification of patients - for better care

NEED OF THE HOUR

- Awareness

- Research

- Onco -geriatrics

   - *Balducci et al (2000), Extermann et al(2003), Repetto et al(2002)*

- Policies

WAY FORWARD ………

- Assessment tool for risk stratification

- Research :cancer-ageing interface

- Individualized ,tailored Tt

- Palliative /Supportive care

- Improving quality of life

"...our society need not ration how we will treat our disadvantaged members, but should continue to seek those preventive and positive measures that can shorten our later period of morbidity. A very major cancer load will persist well into the 21st century, even if the attempts at prevention are eventually a total success. There is a developing knowledge on aging. Care of the older person needs to be part of medical education and oncology education. Research will help attain a desirable quality of life with aging and a reduced morbidity."

- *Kennedy BJ: Aging and cancer. J Clin Oncol 6:1903-1911, 1988*

THANK YOU FOR YOUR ATTENTION