

Assessment of Quality of Life of Geriatric People Due To Musculoskeletal Problems

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ABSTRACT

Aging is the fundamental process that affects all of our system and tissue. The rate and magnitude of change in each system may differ person to person, but total body decline is an inevitable part of life for everyone. This study will help to understand the problems that are faced by elderly people while moving inside and outside of their home. This study also gives an idea about how frequently they interact with others. So, with all this information we will be able to help elderly people to improve their quality of life and reduce their level of disability and will help to improve their functional independence.

Result : The 354 subjects were assessed the old age group i.e. age group 60 years onwards. The functional capacity and disability were assessed using LLFD index. The functional capacity decreased as the age advances. The details showed that 121.45 average in first group, 115.78 average in second group and 102.42 in average third group. The disability increased as the age advances. The details showed that 139.38 average in first group, 134.01 average in second group and 113.56 averages in third group.

Conclusion : As age advances the functional capacity decreases and disability increases.

Keyword : LLDF, pain, disability, aging

INTRODUCTION:

Aging is the fundamental process that affects all of our system and tissue. The rate and magnitude of change in each system may differ person to person, but total body decline is an inevitable part of life for everyone.

Geriatric age group is further divided into, ^[1]

Young-Old - (ages 60 - 69)

Middle-Old - (ages 70 - 79)

Old-Old - (age 80 and older)

Following age related changes are seen.

Changes in Musculoskeletal System are

Age related changes in musculoskeletal system are very important, as they are directly related to limit mobility as well as increase the incidence of falls in elderly. ^[2]

Insufficient muscular strength can contribute to major functional losses of even the most basic activities of daily living. ^[2] Reduced muscle strength is associated with reduced muscle mass. It result in the reduced activity and disuse atrophy which further aggravates reduction in muscle mass. ^[2,3]

Thus, there is reduced ability to carry out daily task with vigor and alertness without undue fatigue.

Changes in Respiratory System are

Respiratory muscle strength declines due to age related changes in muscles. The thoracic cage becomes stiff and rigid as a result of ossification of costal cartilage and kyphosis of spine, which altered the breathing pattern and affect ventilation. ^[2]

This study will help to understand the problems that are faced by elderly people while moving inside and outside of their home. This study also gives an idea about how frequently they interact with others. So, with all this information we will be able to help elderly people to improve their quality of life and reduce their level of disability and will help to improve their functional independence.

The Objectives of study was to assess the Disability of elderly people in day-to-day life. And also, to assess the Functional limitation of elderly people in day-to-day life.

METHOD AND METHODOLOGY

Method –

Sample size :- 354.

Study design :- Cross sectional study.

Sample population :- Elderly individuals age > 60years.

Inclusive criteria :-

Male and females above the age of 60 years.

Idiopathic joint pain.

Osteoarthritis.

Rheumatoid arthritis (RA).

Exclusive criteria :-

Bed ridden people due to pain or any injury.

Recent fracture.

Poly trauma.

Deformities (e.g. fixed flexion deformities, late stage of RA).

Neurological involvement.

Outcome measures :- Late Life Function And Disability Instrument.^[3,4]

Material :- Pen, Paper.

METHODOLOGY –

Procedure –

An interview based on close ended questionnaire containing questions related to the objectives of the project was taken.

Boston university standard scale Late Life Functional And Disability Instrument used. This contains functional capacity and disability subscales. Each scale contained 32 questions. Each questions had 5 points.(The total score for each scale was 160 point considered)⁽⁴⁾

In functional capacity scale the questions related to the daily living activity e.g. unscrewing the lid off a previously open jar without using any device, putting on and off a coat or jacket, walking several blocks, stepping on and off bus. Each point graded in scale 5 to 1 (5 - no difficulty, 4 - a little difficulty, 3 – somewhat difficult, 2- quite a lot difficult, 1 – cannot do)⁽⁴⁾

In disability scale the questions related to social functional activity e.g. Taking part in a regular fitness program, providing care or assistance too others, Keeping in touch with others through letters, phones, or email, preparing meals for yourself. Each point graded in scale 5 to 1 (5 – very often, 4 - often, 3 – once in a while, 2- almost never , 1 – never)⁽⁴⁾

People who fulfilled the inclusion criteria were explained the need of the study in the language they best understood and oral consent was taken.

Interview was taken.

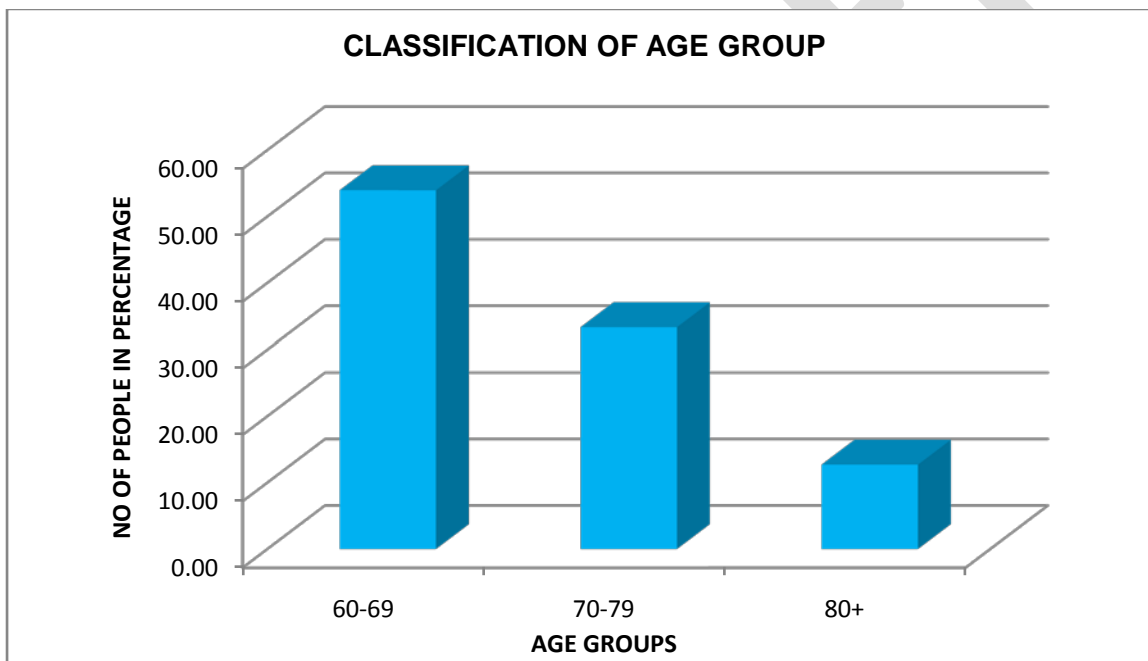
The information so obtained was documented and utilized for data analysis.

The entire population was divided into three groups. First group included age group of 60-69 years, second group included age group of 70-79 years, and the third group included 80 and above years.^[1]

RESULT:**1. AGE GROUP CLASSIFICATION**

Age group	No of people	percentage
60-69	191	53.95
70-79	118	33.33
80+	45	12.71

GRAPH 1

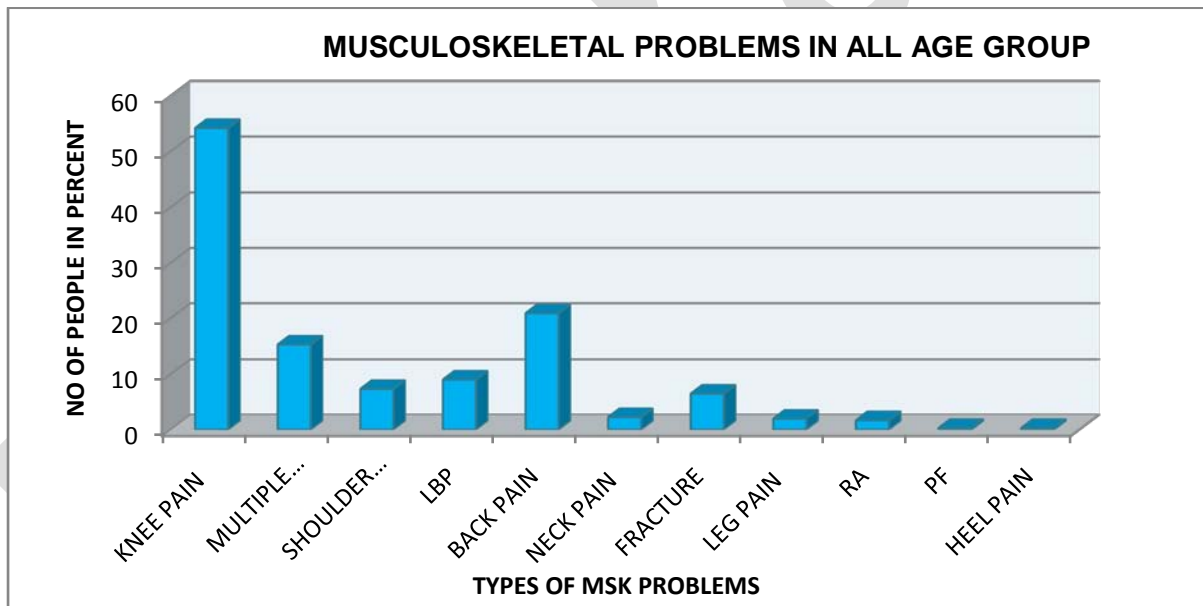


Result: The following graphs shows that there are 53.95% of 60-69 elderly people group and 33.33% of 70-79 elderly people group and 12.71% of 80+ elderly people group in the study.

2. MUSCULOSKELETAL PROBLEMS IN ALL AGE GROUP

Type of pain	No of people	Percentage
KNEE PAIN	192	54.24
MULTIPLE JOINT PAIN	54	15.25
SHOULDER PAIN	26	7.34
LBP	32	9.03
BACK PAIN	74	20.90
NECK PAIN	8	2.26
FRACTURE	23	6.50
LEG PAIN	7	1.98
RA	6	1.69
PF	1	0.28
Heel Pain	1	0.28

GRAPH 2

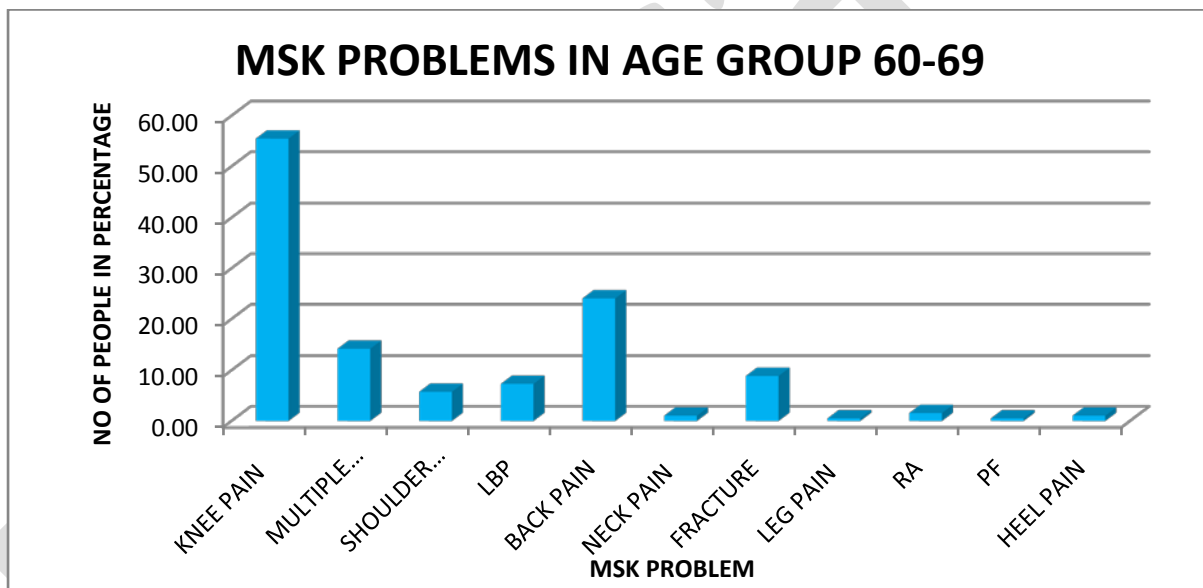


Result: This following graph shows that 54.24% of people complained of knee pain followed by back pain i.e.20.90% ,multiple joint pain i.e. 15.25%, low back pain i.e. 9.03% , shoulder pain i.e. 7.34% , fracture i.e. 6.50% , leg pain i.e. 1.98% , RA (Rheumatoid arthritis) i.e. 1.69% , PF (Plantar Fasciitis) i.e.0.28% and heel pain i.e. 0.28%.

3. MUSCULOSKELETAL PROBLEMS IN AGE GROUP 60-69

Type of pain	No of people	Percentage
KNEE PAIN	106	55.50
MULTIPLE JOINT PAIN	27	14.14
SHOULDER PAIN	11	5.76
LBP	14	7.33
BACK PAIN	46	24.08
NECK PAIN	2	1.05
FRACTURE	17	8.90
LEG PAIN	1	0.52
RA	3	1.57
PF	1	0.52
HEEL PAIN	2	1.05

GRAPH- 3

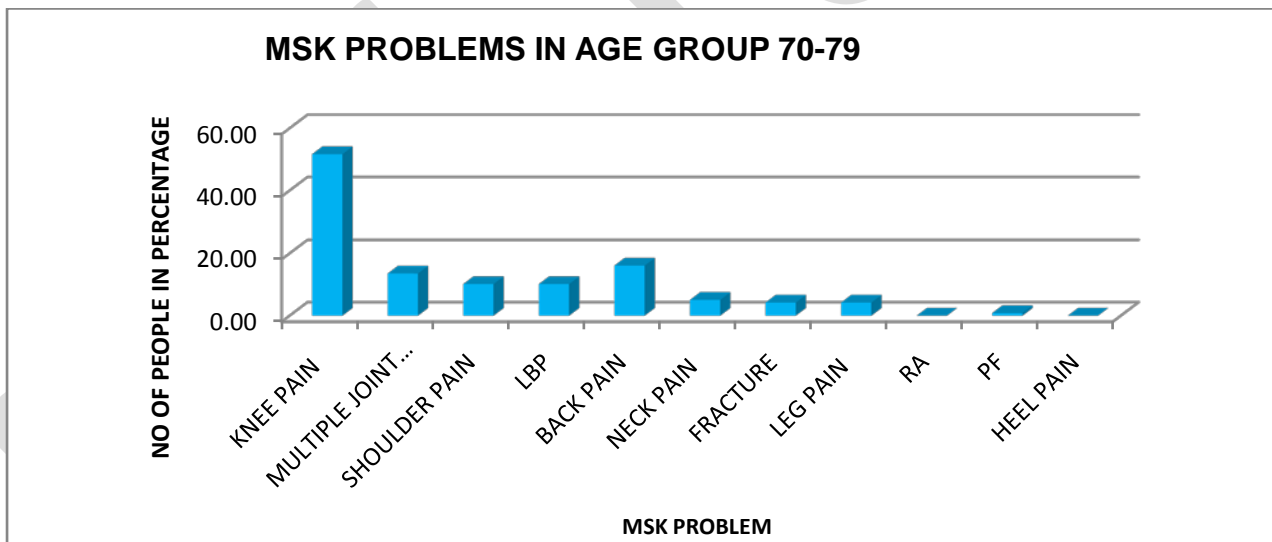


Result: This following graph shows that in age group 60-69 year old people complaining of knee pain i.e. 55.50% followed by back pain i.e. 24.08%, joint pain i.e. 14.14%, fracture i.e. 8.90% , LBP i.e. 7.33% , shoulder pain i.e. 5.76%, RA i.e. 1.57% , heel pain i.e. 1.05% , neck pain i.e. 1.05%, leg pain i.e. 0.52%, PF i.e. 0.52%.

4. MUSCULOSKELETAL PROBLEMS IN AGE GROUP 70-79

Type of pain	No of people	Percentage
KNEE PAIN	61	51.69
MULTIPLE JOINT PAIN	16	13.56
SHOULDER PAIN	12	10.17
LBP	12	10.17
BACK PAIN	19	16.10
NECK PAIN	6	5.08
FRACTURE	5	4.24
LEG PAIN	5	4.24
RA	0	0.00
PF	1	0.85
HEEL PAIN	0	0.00

GRAPH- 4

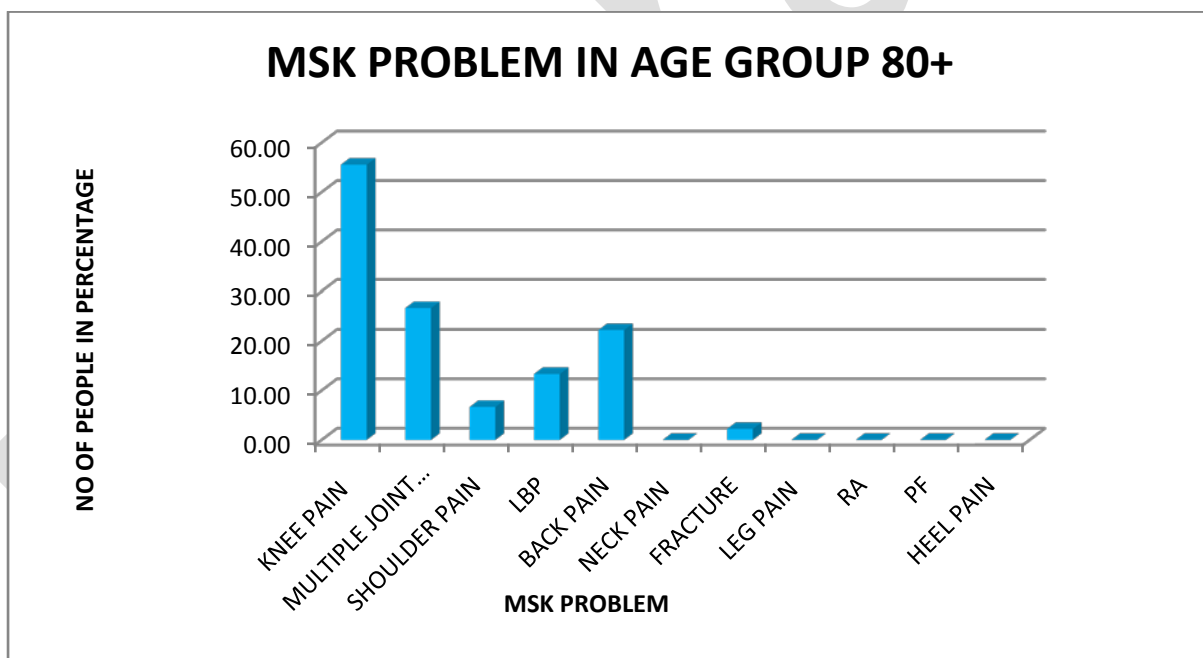


Result: This following graph shows that in age group 70-79 year old people complaining of knee pain i.e. 51.69% followed by back pain i.e. 16.10%, joint pain i.e. 13.56 %, LBP i.e. 10.17% , shoulder pain i.e. 10.17%, neck pain i.e. 5.08%, fracture i.e. 4.24% , leg pain i.e. 4.24%, PF i.e. 0.85%, RA i.e. 0% , heel pain i.e. 0% .

5. MUSCULOSKELETAL PROBLEM IN AGE GROUP 80+

Type of pain	No of people	Percentage
KNEE PAIN	25	55.56
MULTIPLE JOINT PAIN	12	26.67
SHOULDER PAIN	3	6.67
LBP	6	13.33
BACK PAIN	10	22.22
NECK PAIN	0	0.00
FRACTURE	1	2.22
LEG PAIN	0	0.00
RA	0	0.00
PF	0	0.00
HEEL PAIN	0	0.00

GRAPH- 5

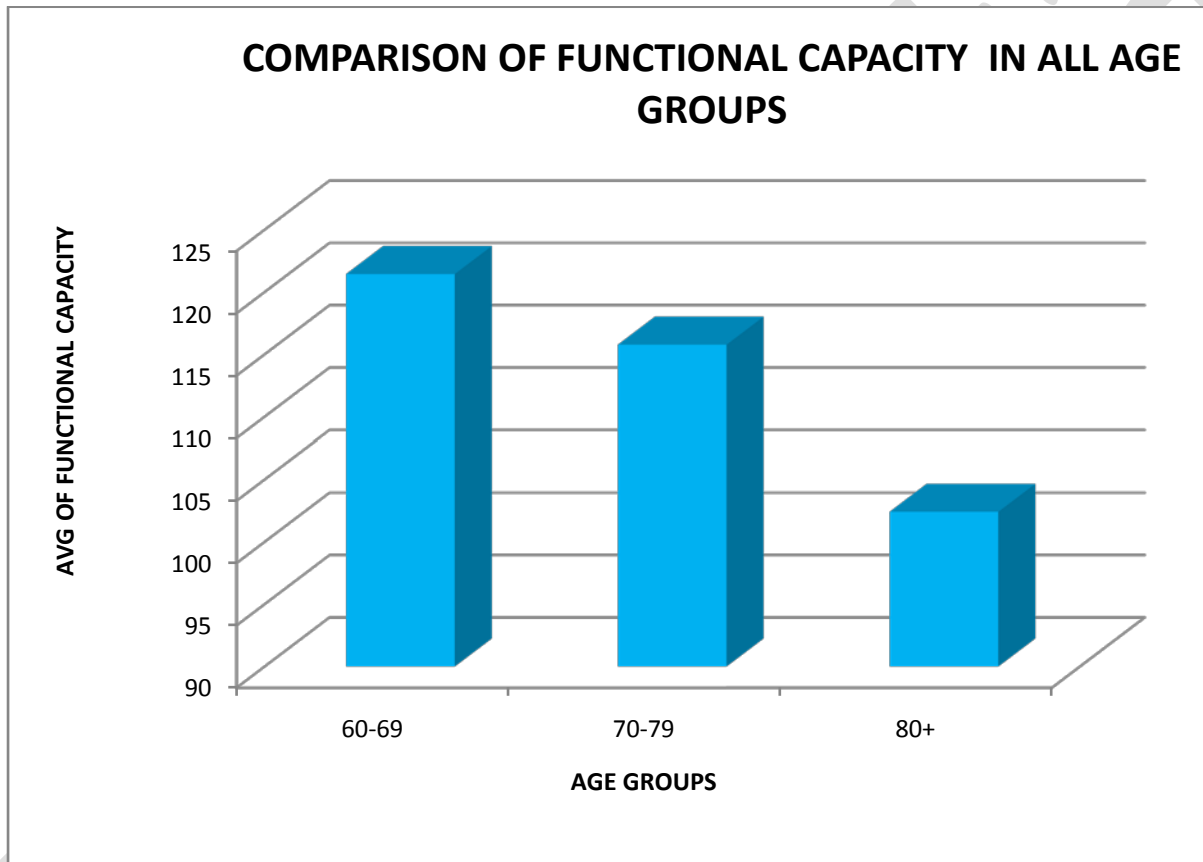


Result: This following graph shows that in age group 80+ year old people complaining of knee pain i.e. 55.56% followed by joint pain i.e. 26.67%, back pain i.e. 22.22%, LBP i.e. 13.33% , shoulder pain i.e. 6.67%, fracture i.e. 2.22%, neck pain i.e. 0%, leg pain i.e. 0%, PF i.e. 0%, RA i.e. 0% , heel pain i.e. 0% .

6. COMPARISON OF FUNCTIONAL CAPACITY IN ALL AGE GROUPS

AGE GROUP	FUNCTIONALCAPACITY IN ALL AGE GROUP
60-69	121.45
70-79	115.78
80+	102.42

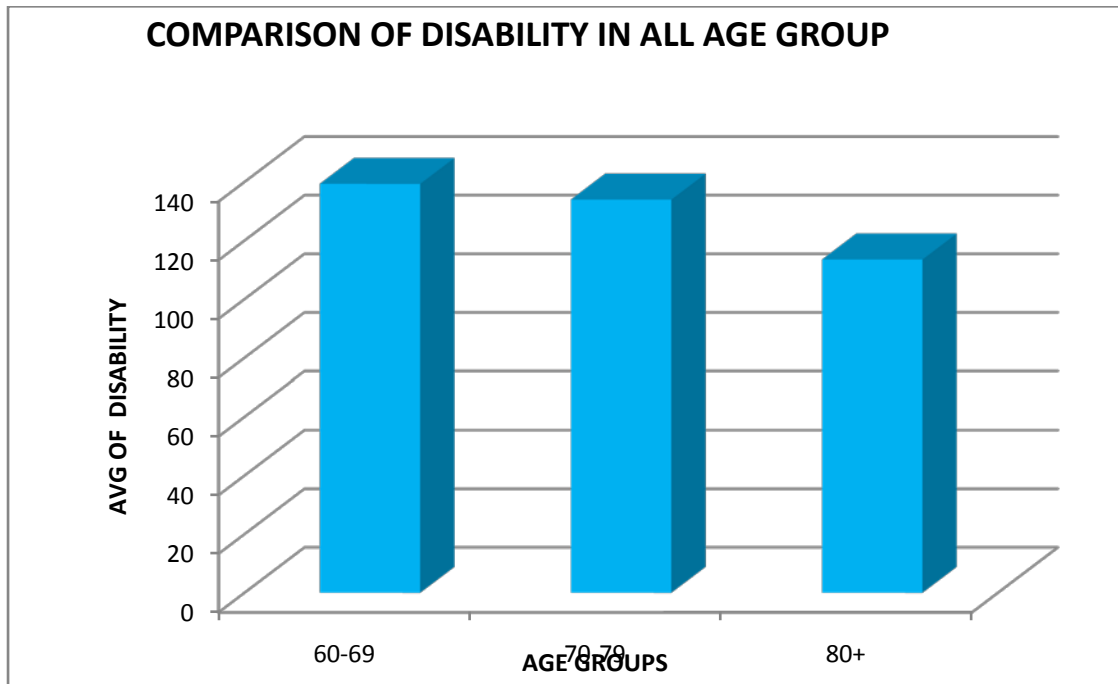
GRAPH- 6



COMPARISON OF DISABILITY IN ALL AGE GROUP

AGE GROUP	DISABILITY
60-69	139.38
70-79	134.01
80+	113.56

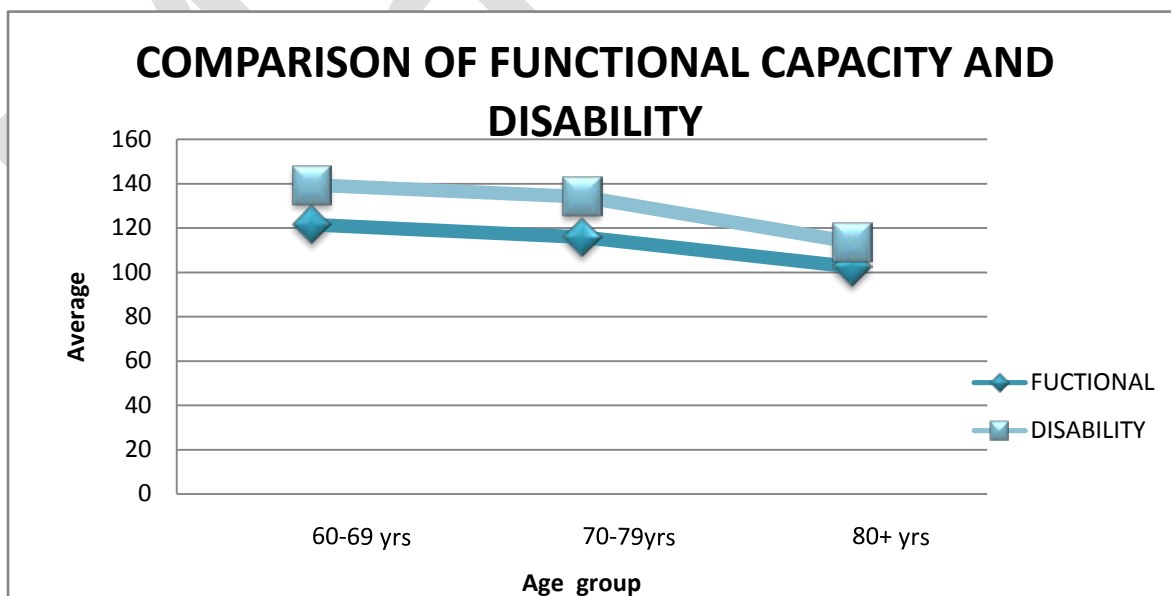
GRAPH 7



8. COMPARISON OF FUNCTIONAL CAPACITY AND DISABILITY

AGE GROUP	FUNCTIONAL CAPACITY	DISABILITY
60-69	121.45	139.38
70-79	115.78	134.01
80+	102.42	113.56

GRAPH- 8



DISSCUSION:

Questionnaire i.e. Late Life Function And Disability Instrument Scale was completed by 354 elderly population.

The population was interviewed for pain assessment to know well about different locations of pain. Out of which the most common area of pain was knee pain in all age groups. The study showed that the knee pain in the first group was 55.5%, in second group it was 51.69% and 55.56% in third group. The causes may be obesity^[5,6], degenerative changes^[5,6,7], osteoarthritis^[5,6], prolonged weight bearing^[5,6], occupation^[5] and sedentary lifestyle. Other studies by [Jung S](#) et.al showed Obesity and Muscle Weakness as Risk Factors for Mobility Limitation in Community-Dwelling Older Japanese Women: A Two-Year Follow-Up Investigation^[8] (Graph no3,4,5)

Second most common area of pain was back pain in all age groups. The study showed that the back pain in the first group was 24.08%, in second group it was 16.10% and 22.22% in third group. The most common cause of back pain may be faulty posture (kyphotic posture)^[2], degenerative changes in spine,^[2] osteoporosis. The Other studies by [Ensrud KE](#) et.al showed Older women with greater degrees of kyphosis are likely to have other manifestations of spinal osteoporosis such as height loss and thoracic fractures and to suffer chronic upper and middle back pain. Measurement of kyphosis may be useful in assessing the severity of spinal osteoporosis.^[9] (Graph no3,4,5)

The other common area of pain was multiple joint pains i.e. more than 2 joint involved in all age groups. The study showed that the multiple joint pain in the first group was 14.14%, in second group it was 13.56% and 26.67% in third group. In third age group the multiple joint pains is more compared to other. It is due to reduce muscle strength, muscle power, muscle endurance and muscle mass.^[2,6] (Graph no3 4,5)

The functional capacity decreased as the age advances. The details showed that 121.45 average in first group, 115.78 average in second group and 102.42 in average third group. (Graph no 6) The details were:

In age group 60-69 people easily did activity in which upper limb were involved. Example unscrewing the lid off a previously unopened jar without using any devices (score 4.61/5), putting on and taking off a coat or jacket (score 4.52/5), rip open a package of snack food (e.g. cellophane wrapping on crackers) using only your hands (score 4.56/5). But activity in which lower limb involved had little bit difficulty due to degenerative changes in joints and obesity.^(2,7) Like running a short distance to catch a bus (score 2.84/5), getting in and out of a car / taxi (sedan) (score 3.05/5),

stepping on and off bus(score 3.04/5), hiking a couple of miles on uneven surface , including hills (score 3.19/5) running ½ mile or more (score 3.29/5).

In age group 70-79 people easily did activity in which upper limb were involved. Example unscrewing the lid off a previously unopened jar without using any devices (score 4.56/5), putting on and taking off a coat or jacket (score 4.40/5), rip open a package of snack food (e.g. cellophane wrapping on crackers) using only your hands (score 4.34/5). But activity in which lower limb involved had difficulty due to involvement of weight bearing joints, obesity, and degeneration.^(2,7) Like running a short distance to catch a bus (score 2.60/5), getting in and out of a car / taxi (sedan) (score 2.78/5), stepping on and off bus(score 2.81 /5), hiking a couple of miles on uneven surface , including hills (score 3.10/5) running ½ mile or more (score 3.19/5).

In age group 80+ people had difficulty in both upper limb and lower limb activities. As the age advances, reduces the muscle mass, progressive decline in muscle strength, osteoporosis, reduce muscle power, degenerative changes in spine, and loading joints which affects both upper and lower limb.^(2,6,7) Example unscrewing the lid off a previously unopened jar without using any devices (score 4.29/5), putting on and taking off a coat or jacket (score 4.20/5), rip open a package of snack food (e.g. cellophane wrapping on crackers) using only your hands (score 4.0/5)running half mile(score 2.53 /5), running a short distance, such as to catch a bus (score 2.22 /5), pouring from a larger pitcher (score 2.18 /5), getting in and out of a car / taxi (sedan) (score 2.27/5), stepping on and off bus(score 2.22 /5), hiking a couple of miles on uneven surface , including hills (score 2.40/5), running ½ mile or more (score 2.53/5).

The disability increased as the age advances. The details showed that 139.38 average in first group, 134.01 average in second group and 113.56 averages in third group. (Graph no 7)

In age group 60-69 they had a good social interaction in community, recreational participation personal need and good in household activities. Activities. Example taking part in a regular fitness program (score 3.43/5), providing care or assistance too others (score 4.21/5),.Keeping in touch with others through letters, phones, or email (score 4.76/5), preparing meals for yourself (score 4.6/5).

In age group 70-79, they had a good social interaction in community, recreational participation personal need and good in household activities. Activities. Example taking part in a regular fitness program (score 3.91/5), providing care or assistance too others (score 3.11/5),.Keeping in touch with others through letters, phones, or email (score 4.59/5), preparing meals for yourself (score 4.69/5).

In the individuals above 80years it was seen that they had difficulty and limitations in managing household and recreational activities. It happens due to degenerative changes, postural imbalance;

reduce muscle power, strength, pain, flexibility which drastically affects mobility.^(2,6) Example taking part in activity recreation (score 1.49/5), working at a volunteer job outside your home (score 1.69/5) providing care or assistance too others (score 3.11/5). But they had good social interaction with others. Keeping in touch with others through letters, phones, or email (score 4.02/5).

The graph no 8 showed that there was an inverse relation between functional capacity and disability. Which proves that as age advances the functional capacity decreases and disability increases. The details were

AGE GROUP	FUNCTIONAL CAPACITY	DISABILITY
60-69	121.45	139.38
70-79	115.78	134.01
80+	102.42	113.56

CONCLUSION:

As age advances the functional capacity decreases and disability increases.

FURTHER SCOPE OF STUDY

Elderly people were not aware about correct postural patters in sitting, standing and or doing any activity. Thus teaching exercise and correct postural patterns in a recreational form. Then record intensity of pain and discomfort. And again evaluate them, can be a further scope of study.

Also more no of sample can be taken and or equal no of male and female in each group for comparative study, can also be a further scope of the study.

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