

**Lifestyle and related  
factors in older adults  
with osteoporosis**

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Prevalence



Fracture



Importance  
of  
osteoporosis



Burden



# Importance of Osteoporosis

**Overall  
PREVALENCE**

- **Osteoporosis: Men 4.8% , Women 7.7%**
- **Osteopenia: Men 36.8%, women 39.3%**
- (ORC, 2011)

**Over 60  
years**

- **Women 56.3%**
- **Men 16.7%**
- (Iranian Multicenter Osteoporosis Study, 2012)





# Background

- Osteoporosis is a chronic disease and the most common metabolic bone disease.
- Complications of osteoporosis affect the quality of life.
- It has been estimated that between 20 to 50 percent of bone density is influenced by **lifestyle** (Morgan,2011).
- The present study aimed to determine:
  - 1) the lifestyle of osteoporotic older adults,
  - 2) the factors associated with osteoporosis.



# Methodology

- Study design: cross-sectional study,
- Sample size: 300 osteoporotic elderly
- Setting: Bone densitometry centers of Tehran University of Medical Sciences
- Inclusion criteria :
  - Age  $\geq 60$
  - T-score  $< -2.5$



Data collection: self reported questionnaires

1) Demographic

2) Persian version Elderly lifestyle questionnaire: 46 questions, 5 dimensions: prevention, Physical activity, Nutrition, Stress management, Social participation

Minimum score:42

Maximum score: 211 (Eshaghi, S., Farajzadegan, Z. & Babak, A, 2010)

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## **Lifestyle levels:**

Adequate (156-211)

Moderate (99-155)

Non Adequate (42-98)

Data analyzing: ANOVA, T-test  
 $P < 0.05$ .

# Demographic characteristics

- Female 62.1%
- Married 73.3%
- Age (60-70) 68.4%
- Primary Education 54%
- Employee 56.3%
- Moderate income 76.3%
- With comorbidity 67.3%



# lifestyle



Lifestyle dimensions	Total		Prevention		Physical activity		Nutrition		Stress management		Social participation	
	N	%	N	%	N	%	N	%	N	%	N	%
Adequate 156-211	32	10.7	144	48	18	6.1	10	3.4	14	4.7	46	15.4
Moderate 99-155	214	<b>71.3</b>	156	<b>52</b>	124	41.3	255	<b>85</b>	247	<b>82.3</b>	218	<b>72.6</b>
Non Adequate 42-98	54	18	0	0	158	<b>52.6</b>	35	11.6	39	13	36	12
Mean± SD	<b>131.43±1 6.8</b>		51.77± 7.07		10.89± 3.16		32.85± 5.86		14.18± 2.66		21.73± 4.15	



# Lifestyle and age

Age Yr	60-70		71-80		≥80	
Lifestyle levels	N	%	N	%	N	%
Adequate 156-211	20	9.7	12	13.3	0	0
Moderate 99-155	154	75.1	56	62.2	4	80
Non Adequate 42-98	31	15.2	22	24.5	1	20
Total	205	100	90	100	5	100
Mean± SD	131.88±16.06		130.86±18.53		123.40±14.17	

ANOVA TEST

F=0.697

P=0.499



# Lifestyle and Gender

Gender	Male		Female	
	N	%	N	%
Adequate 156-211	13	11.4	19	10.2
Moderate 99-155	86	75.4	128	68.8
Non Adequate 42-98	15	13.2	39	20
Total	114	100	186	100
Mean± SD	132.46±16.27		129.75±17.56	
T test	t= -1.357 df=298 p=0.176			





# Lifestyle and Marriage status

Marriage status	Single		Married		Divorced		widow	
	N	%	N	%	N	%	N	%
Adequate 156-211	0	0	29	13.1	2	14.2	1	1.7
Moderate 99-155	10	100	155	70	10	71.4	39	69.6
Non Adequate 42-98	0	0	36	16.9	2	14.2	16	28.7
Total	10	100	220	100	14	100	56	100
Mean± SD	128±11.23		133.34±17.13		134.5±16.38		123.79±14.24	
ANOVA	F=5.330		P=0.001					



# Lifestyle and Income

Income	poor		Moderate		Good	
	N	%	N	%	N	%
Adequate 156-211	1	2	20	8.7	11	50
Moderate 99-155	33	67.3	174	76	7	31
Non Adequate 42-98	15	30.7	35	15.3	4	19
Total	49	100	229	100	22	100
Mean± SD	122.14±19.67		131.83±14.43		148±19.54	
ANOVA Test	F=20.652		P=0.001			



# Lifestyle and Comorbidity

Comorbidity	yes		No	
	N	%	N	%
Adequate 156-211	22	10.9	10	10.2
Moderate 99-155	150	74.2	64	65.3
Non Adequate 42-98	30	14.9	24	24.5
Total	202	100	98	100
Mean± SD	129.68±15.54		135.05±18.69	
T test=-2.623	df=298	p=0.009		





# Conclusion

- Most of the participants had moderate lifestyle.
- Related factors:
  - Nonsignificant: Age, and gender
  - Significant: Marriage status, income, and comorbidity



# Implication

- To increase public awareness
- To modify all dimensions of lifestyle particularly on physical activity
- To prevent osteoporosis
- To screen osteoporosis
- To improve quality of life



# Future research

To design an interventional study for  
improving lifestyle.





# References

- Bagheri, P., Haghdoost, A.-A., Dortaj, E., Halimi, L., Vafayi, Z., Farhangnia, M. & Shayan, L. 2011. Ultra Analysis of Prevalence of Osteoporosis in Iranian Women A Systematic Review and Meta-analysis. Iranian Journal of Endocrinology and Metabolism.
- Eshaghi, S., Farajzadegan, Z. & Babak, A. 2010. Healthy lifestyle assessment questionnaire in elderly: translation, reliability and validity. Payesh.
- Morgan, S. L. Calcium and Vitamin D in Osteoporosis. Rheumatic Disease Clinics, 27, 101-130.
- Osteoporosis Research Center. 2011. Osteoporosis. Osteoporosis Research Center, Tehran University of Medical Sciences, [online]available at:<http://emri.tums.ac.ir/pages/mainPage.asp?l=38791034I010> [accessed 5 october 2012].
- Shirazi Khah, M. 2012. Study of Health and social indicators of elderly women in Iran. Iranian Journal of Ageing, 6, 66-78.