Appendix – I

Information to participants and consent form

You are invited to take part in this research study. The information in this document is meant to help you decide whether or not to take part. Please feel free to ask if you have any queries or concerns.

You are being asked to participate in this study being conducted in the **Department of Foods and Nutrition, Faculty of Family and Community Sciences, The Maharaja Sayajirao University of Baroda, Vadodara**, because you satisfy our eligibility criteria.

Purpose of this research:

Osteoporosis and Osteopenia are the common disorder characterized by low bone mass density. It usually presents with no visual symptoms unless a fracture occurs. It may start developing after the age of 35years. Osteoporosis and Osteopenia is caused by low calcium and vitamin D in daily diet. If not treated, the condition is known to lead to fragile bone and ease to fracture.

Treatment for this disease includes Supplementation of calcium and vitamin D tablets, life style modification.

Possible benefits to other people

The results of the research may provide benefits to the society in terms of advancement of medical knowledge and/or therapeutic guide lines and benefit to future patients with Osteoporosis and Osteopenia, [The sponsor of the research will also benefit from the results of study, if positive.], can help in national policy making for elderly people, evidence for modification in life style etc.

Patient consent form

I, _____, have read the information in this form. I was free to ask any questions and they have been answered. I am over 18 years of age and, exercising my free power of choice, hereby give my consent to be a part of this study entitled **"An investigation into Bone Material Density and its Correlation with calcium and vitamin D supplementation to the geriatric population of urban Vadodara: evaluation of dietary intake and impact of exercise on bone health**"; on a mutual agreement to obey the following:

1. I don't have any objection to give blood sample and take the calcium and vitamin D supplement if at all I take part in the intervention.
2. My identity will be kept confidential if my data are publicly presented.
3. I won't have any objection if the investigators publish the data obtained from me in scientific journal.

Name and signature of the participant:

_____

Date:

Appendix – II/a

An investigation into Bone Material Density and its Correlation with calcium and vitamin D supplementation to the geriatric population of urban Vadodara: evaluation of dietary intake and impact of exercise on bone health.

Baseline Performa

A] General information/ socio-economic profile:

1. Subject ID: ☐☐☐☐ 2. Supplementation Group: ☐

3. Identification Data of family (House No): _____

4. Date of Interview: ☐☐ ☐☐ ☐☐

5. Name of Subject: _____

6. Address: _____
_____

7. Phone no. _____

8. Date of Birth: ☐☐ ☐☐ ☐☐
d d m m y y

9. Age in years: ☐☐☐☐☐☐

10. Sex: Male (1) Female (2) ☐

11. Marital status:

Married (1) Unmarried (2) Divorced (3) Widow/Widower (4) ☐

12. Religion: Hindu (1) Muslim (2) Sikh (3) Others (4) ☐

13. Occupation of the subject:

Self employed (1) Service (2) Retired (3) Semi skilled (4) ☐

Unemployed (5) House bound (6)

14. Education of the Subject:

Illiterate	Primary	Middle education	High school	
(1)	(2)	(3)	(4)	

Graduate	Post graduate
(5)	(6)

15. Type of Family: Nuclear (1) Joint (2)

16. Total number of Family Members:

< 5 members	> 5 members	Distinctive features
(1)	(2)	(3)

17. Total Family Income/ month (Rs): | | | | | | |

18. Per capita income/ month (Rs): | | | | | | |

19. Socio-economic status: HIG (1) MIG (2) LIG (3) ☐

20. Care giver of the subject:

Self	Spouse	Family members	Institution	Others	
(1)	(2)	(3)	(4)	(5)	

B] Subject's Life style profile and other related factors:

21. Activity Pattern:

a) Activity of daily living: _____ (time spend)

b) Leisure activities: _____ (time spend)

c) Exercise: _____ (time spend)

d) Yoga: _____ (time spend)

e) Social/religious activities: _____ (time spend)

f) Sleep/rest: _____ (time spend)

g) Idle time: _____ (time spend)

Total active time spent: _____

Total inactive time spent: _____

22. Addiction Pattern/Habit:

a) Cigarette or bidi:	Past (1)	Daily (2)	Weekly (3)	Occasionally (4)	Never (5)	☐
b) Alcohol:	Past (1)	Daily (2)	Weekly (3)	Occasionally (4)	Never (5)	☐
c) Tobacco powder:	Past (1)	Daily (2)	Weekly (3)	Occasionally (4)	Never (5)	☐
d) Snuff:	Past (1)	Daily (2)	Weekly (3)	Occasionally (4)	Never (5)	☐
e) Tea/Coffee:	Past (1)	Daily (2)	Weekly (3)	Occasionally (4)	Never (5)	☐
f) Any other:	Past (1)	Daily (2)	Weekly (3)	Occasionally (4)	Never (5)	☐

C] Subject's Anthropometric profile:

23. Weight (kg): ☐☐ ☐

24. Height (cm): ☐☐☐

25. BMI: _____kg/m^2 (to be filled by the investigator)

Underweight (1)	Normal (2)	Overweight (3)	Obese (4)	
				☐

26. Waist circumference: _____ cm

27. Hip circumference: _____ cm

28. Waist-hip ratio (WHR): _____

At risk (1)	Normal (2)	
		☐ (to be filled by the investigator)

D] Subject's Health profile:

29. Knowledge about Osteoporosis:

Yes (1)	No (2)	
		☐

30. Knowledge about Calcium and Vitamin D and its importance in diet:

Yes (1)	No (2)	
		☐

31. Age at menopause: _____ years

32. Morbidity Status (during last 15 days): ☐☐☐☐☐☐☐☐

Viral fever (1) Other infections (2) GI (3) Aches (4)
Circulatory (5) Respiratory (6) CNS (7) Psychological (8) None (9)

33. H/o Chronic Diseases: ☐☐☐☐☐☐☐☐☐☐

Oral (1) Respiratory (2) GI (3) Hepato-biliary (4) Pancreatic (5) Endocrinal (6)

Cardiovascular (7) Genito-urinal (8) Locomotors (9) CNS (10) None (11)

34. Number of bone fracture: _____

35. Type of fracture: Hip (1) Vertebral (2) Wrist (3) Others (4) ☐

36. Presence of Diabetes Mellitus: Yes (1) No (2) ☐

E] Biochemical parameters:

37. Medicine taken: _____

38. Any previous test reports available (ultrasound, x-ray, blood): _____

39. Blood Ca level: _____mg/ dl (to be filled by the investigator)

Severely Ca deficiency (1) Moderately Ca deficiency (2) ☐
Mildly Ca deficiency (2) Normal (4)

40. Blood vitamin D level: _____IU/ dl (to be filled by the investigator)

Severely VDD (1) Moderately VDD (2) Mild VDD (3) Normal (4) ☐

41. Bone Mass Density: _____ (mean T – score) (to be filled by the investigator)

Normal (1) Osteopenia (2) Osteoporosis (3) ☐

42. Hemoglobin: _____gm/ dl (to be filled by the investigator)

Severe	Moderately	Mildly	Not anaemic	
(1)	(2)	(3)	(4)	☐

43. Blood pressure: _____mm/Hg. (to be filled by the investigator)

Low	Normal	High
(1)	(2)	(3)

Appendix – II/b

Đâ½ ÔëÌâÓ ÑâÃë ÑâãÚÈä áÌë ÖïÑãÈ ÍÝ

ÑèÛ ¼ÈÍÝ ®Ñâï»

ÍýâëtÖâÚ»

×âëË »Èâô (áâë) (ÑçKÒ áÌë ®ÑÖë »Ñ áëÎ ÖâÉäÊâÓ)

áâ Öï×âëËÌ áBÒâÖÑâï Đâ½ ÔëÕâ ÑâÃë ÈÑÌë áâÑïÝÇ Àë. áâ ÊsÈâÕëÁÑâ ááÍëÔä ÑâãÚÈä ÈÑÌë Đâ½ ÔëÕâë »ë ÌãÚ Èë Ì»»ä »ÓÕâÑâï ÑÊÊ#Í É×ë. ÈÑÌë »âëå ×ï»â áÉÕâ ÍýWÌâë ÚâëÒ Èâë Öï»âë¿ë ÍèÀ×âë.

ÑÚâÓâÁâ ÖÒâ‘ÓâÕ ÒçãÌÕÖäôÃä ááëÎ. ÏÓâëÅâÌä Îë»lÃä ááëÎ ÎëÑäÔä áënÅ »âëmÒçÌäÃä ÖâÒnÖäÖÌâ ÎçÅ áënÅ nÒçÃ÷ä×äÒÌ ãÕĐâ½ ©âÓâ ááÒâë‘È áâ áBÒâÖ ÑâÃë ÈÑÌë Đâ½ ÔëÕâÌçï »ÚëÕâÑâï ááÕë Àë »âÓÇ »ë ÈÑë Ìä¿ëÌä ÔâÒ»âÈ ÖïÈâØâë Àâë.

1. áãsÉ ÍÊâÉôÌä Ìä¿ä ËÌÈâ Öâë Ïâël ÑâÖ ÅënÖäÃä Ìçï ãÌÊâÌ
2. éïÑÓ Éä ÕØôÌä Õc¿ë

áâ Öï×âëËÌÌâë ÚëÈç ð

ááësÃäáâë ÍâëÓâëÖäÖ áÌë ááësÃäÏâëÒëÌäáâ áë áãsÉ ÍÊâÉôÌä Ìä¿ä ËÌÈâÌâ ÔÜÇÕâÛä ÖâÑânÒ ÏäÑâÓä Àë. áãsÉ Đï½ (Îë»¿Ó) Ìâ ÉâÒ tÒâï ÖçËä ÖâÑânÒ ÍÇë ááÌâ ÔÜÇâë Êë¼âÈâ ÌÉä. 35 ÕØôÌä éïÑÓ ÍÀä ááÌä ×#ááÈ ÉÈä ÚâëÒ áëÕç ÏÌë. Óâë‘ïÊâ ¼âëÓâ»Ñâï »ëlÖäÒÑ áÌë ÕäÃâÑäÌ Åä Ìä éÇâÍÌâ »âÓÇë ááësÃäáâë ÍâëÓâÖäÖ áÌë ááësÃäáâë ÍëÉäáâ ÉâÒ Àë. ÖâÓÕâÓ Ì »ÓÕâÑâï ááÕë Èâë áãsÉÈïÝ ÏsÅ Éå ÁâÒ áÌë áãsÉĐï½ (Îëï»¿Ó) ÖÚëÔâåÉä Éå ÁâÒ áëÕä ÍãÓãsÉÈä éĐä ÉâÒ Àë.

átÒâÓë ááÌä ÖâÓÕâÓ ÈÓä»ë »ëlÖäÒÑ áÌë ÕäÃâÑäÌ Åä Ìä ÕËâÓâÌä ÍèÓÕÇä áÌë ÖÔâÚÑïÝâÌë ÖâÑëÔ »ÓÕâÑâï ááÕë Àë.

áÑë áâ ÑâÃë ånsÃ÷äÃÒç×ÌÔ áëÉä»Ö »ãÑãÃ (ÎçÅÖ áënÅ nÒçÃ÷ä×Ì ãÕĐâ½, Îë»lÃä ááëÎ ÎëÑäÔä áënÅ »âëmÒçÌäÃä ÖâÒnÖäÖ, ÑÚâÓâÁâ ÖÒâ‘ÓâÕ ÒçãÌÕÖäôÃä ááëÎ ÏÓâëÅâ, ÕÅâëÊÓâ) Ìä ÍÓÕâÌ½ä ÑëÛÕëÔä Àë.

ÏäÁâ Ôâë»âëÌë ÎâÒÊâÌä ×»ÒÈâ ð

áâ Öï×âëËÌÌâ ÍãÓÇâÑâïÉä ÖÑâÁÌë ã¿ã»tÖâ ãÕÞâÌÌä Íý½ãÈÌâ ÔâÐ ÑÛä ×»ë áÌë / áÉÕâ áâësÃäáâëÍâëÓâëÖäÖ áÌë áâësÃäáâëÍëÌä¼âÌâ ÐâÕë ÊÊäôáâëÌë ÕËç ÖâÓä ÖâÓÕâÓ ÑÛä ×»ë.

ÊÓÊäôÌçï ÖïÑãÈ ÍÝ

áBÒâÖÌçï ã×Øô» ð áãsÉ ¼ÌäÁ ËÌÈâ – ÏâëÁ ÑäÌÓÔ ÅënÖäÃä (BMD) Ñâï ÎëÓÎâÓÌâ ãÌãÑÈ ÈÓä»ë »ësÔäÒÑ áÌë ÕäÃâÑäÌ Åä Ìä ÍèÓÕÇäÌä áÖÓ ÁëÕâ ÚâÅ»âÌë Ô½Èä ÏäÑâÓäáâëÌâ ÖïÊÐôÑâï ÕÅâëÊÓâÌâ ×ÚëÓä ãÕsÈâÓÌâï ÑâëÃä éïÑÓÌâ Ôâë»âëÌä ‘ÕÌ¿¿âô,, ÍâëØÇÜÑ ãsÉãÈ áÌë áâÚâÓ ÕÔÇ áï½ëÌâë áë» áBÒâÖ

Ðâ½ ÔëÌâÓÌçï ÌâÑ ð

ÑçKÒ Öï×âëË»Ìç ÌâÑ ð Åâô. »âëÑÖ ¿âìÚâÇ

ÖïsÉâÌçï ÌâÑ ð ÎçÅ áënÅ nÒçÃ÷ä×Ì ãÕÐâ½, Îë»lÃä áâëÎ ÎëÑäÔä áënÅ »âëmÒçÌäÃä ÖâÒnÖäÖ, ÑÚâÓâÁâ ÖÒâ‘ÓâÕ ÒçãÌÕÖäôÃä áâëÎ ÏÓâëÅâ, ÕÅâëÊÓâ.

ÖÚâÒ» (ÎâÛâë áâÍÌâÓä ÖïsÉâáâë Ìâ ÌâÑ áÌë ÖÓÌâÑâ) ð

ÑâãÚÈ½âÓÌä ÖïÑãÈÌä Ìâëï

Ñëï. _____ áâ ÍÝ»Ñâï áâÍëÔä ÑâãÚÈä Õâï¿ä Àë ÑÌë »âëå ÍÇ ÍýWÌ ÍèÀÕâÌä ÀèÃ ÚÈä áÌë áëÌâ ÁÕâÏâë ÑLÒâ Àë ÑâÓä éïÑÓ 18 ÕØôÉä éÍÓ Àë. áÌë ÍÖïÊ½ä »ÓÕâÌä ÑâÓâ ÑçÊÈ áãË»âÓÌâë éÍÒâë½ »ÓäÌë áâ éÍÓ ÏÈâÕëÔâ ã×Øô»ÓÈâ áBÒâÖÑâï Ðâ½ ÔëÌâÓ ÈÓä»ë ÑÌë ÖâÑëÔ »ÓÕâ ÑâÃë Úçï ÑâÓä ÖïÑãÈ áâÍçï Àçï.

1. Ñëï áâ ÖïÑãÈÍÝ áÌë ÑÌë ÍèÓä ÍâÅÕâÑâï áâÕëÔä ÑâãÚÈä Õâï¿ä Àë. áÌë ÖÑÁâÒâë Àçï.
2. ÖïÑãÈ ÊsÈâÕëÁ ãÕØë ÖÑÌ áâÍÕâÑâï áâÕä Àë.
3. ÑÌë áâ áBÒâÖÌçï sÕ#Í ÖÑÁâÕÕâÑâï áâvÒç Àë.
4. ×âëË»Èâô ©âÓâ áÌë ÑâÓâ Úk»âë áÌë ÁÕâÏÊâÓäáâë ãÕØë ÖÑÁâÕÕâÑâï áâvÒçï Àë.
5. áâ áBÒâÖÑâï ÑâÓâ Ðâ½ ÔëÕ ÖâÉë ÁâëÅâÒëÔâ Áâë¼Ñâë ãÕ×ë ÑÌë ÖÔâÚ áâÍÕâÑâï áâÕä Àë.
6. Úçï ÑâÓâ ×âëË»Èâô Ìë ÖÚ»âÓ áâÍÕâ »ÏçÔ Éâé Àçï áÌë ÑÌë »âëå Íý»âÓÌâ ásÕâÐâãÕ» ÔÜÇâë ÁÇâÒ Èâë ÈÓÈ Á ÈëÑÇë ÁâÇ »Óä×.
7. Ñëï ÀëlÔâ _____ ÑãÚÌâáâë ÊÓãmÒâÌ »âëå Öï×áëËÌ áBÒâÖÑâï Ðâ½ ÔäËâë ÌÉä.

8. Ñïì Àëllââ _____ ÑãÚÌâáââë ÊÓãmÒâÌ Ó»ÈÊâÌ »ÓëÔçï ÌÉä áÌë áâ áBÒâÖ ÊÓãmÒâÌ ÔâëÚäÌâ ÌÑèÌâ ÔëÕâÌä Á#ÓäÒâÈ êÐä ÉâÒ Èâë Èë áâÍÕâ ÑâÃë Úçï ãÕÓâëË ÌÚä.
9. ÍýÒâë½Ìâ Ðâ½ #Íë áâÚâÓ áÉÕâ Ãäk»äÌâ sÕ#Íë »ël×äÒÑ »ë ÕäÃâÑäÌ Åä Ìä ÍâëØ» ÍèÓÕÇä ÔëÕâÑâï ÑÌë »âëå ÕâïËâë ÌÚä.
10. ×âëË »Èâô ½Ñë tÒâÓë, »âëå ÍÇ »âÓÇ Éä ÑâÓä ÖïÑãÈ Õ½Ó áâ áBÒâÖÑâï ÑâÓä Ðâ½äÊâÓäáâë ÑâÓä Ðâ½äÊâÓäáâë áïÉ ÔâÕä ×»ë Àë Èë ÏâÏÈ Úçï ÖÐâÌ Àçï.
11. ÑâÓä Ðâ½äÊâÓä ÍãÓÇâÑ sÕ#Í ÑâÓä ÍâÖëÉä ÑÛëÔä ÑâãÚÈä ÌâëË»Èâôáâë ÍýâëtÖâÚ»âëÌë, ãÌÒâÑ» áãË»âÓäáâëÌë, ÖÓ»âÓä ãÕÐâ½âëÌë »ë áëÉä»Ö »ãÑãÃÌë áâÍä ×»ë Èë ÑâÃë Úçï ÍÓÕâÌ½ä áâÍïç Àçï. Úçï ÖÑÁç Àçï »ë Èëáâë ÑâÓâ ÑèÛÐèÈ ÊsÈâÕëÁâë ÈÍâÖä ×»ë Àë.
12. ÑâÓä áâÍëÔä ãÕ½Èâë Ìä ÁâÚëÓÑâï ÍýãÖã} »ÓÕâÑâï áâÕë Èâë ÑâÓä áâëÛ¼ ¼âÌ½ä Óâ¼ÕâÑâï áâÕ×ë.
13. Ñëï ÍèÀëÔâ ÍýWÌâëÌâ ÑÌë ÖïÈâëØ»âÓ» ÁÕâÏâë ÑLÒâ Àë.
14. Ñëï áâ Öï×âëËÌ áBÒâÖÑâï ÁâëÅâÕÕâÌç Ì»»ä »Óä ÔäËçï Àë.

ÍuKÈ ÕÒÌâ Ðâ½ ÔëÌâÓ ÑâÃë

Ðâ½ÔëÌâÓ (áÉÕâ Ðâ½ÔëÌâÓ áÖÑÉô ÚâëÒ Èâë ÈëÌâ áãË»öÈ ÍýãÈãÌãË) Ìç ÌâÑ áÌë ÖÚä / áï½çÄâÌçï ãÌ×âÌ

_____ ÌâÑ _____ ÖÚä

ÈâÓä¼ _____ ÖÑÒ _____

ÊÓÊäô ãÌÓÜÓ ÚâëÒ Èâë) ÈÃsÉ ÖâÜäÌçÑ ÌâÑ áÌë ÖÚä

_____ ÌâÑ _____ ÖÚä

ÈâÓä¼ _____ ÖÑÒ _____

ÖâÜä Ìçï ÖÓÌâÑç áÌë ÖïÍ»ô ÌïÏÓ _____

ÖïÑãÈ ÑëÛÕÌâÓ ×âëË»Èâô áÉÕâ ÈëÌâ ÍýãÈãÌãËÌçï ÌâÑ áÌë ÖÚä

_____ ÌâÑ _____ ÖÚä

ÈâÓä¼ _____ ÖÑÒ _____

<u>×âëË»ÈâôÌçï ÍýÑâÇ ÍÝ</u>

Úçï ÍýÑâÇÍÝ áâÍçï Àçï »ë áâ ÖïÑãÈ ÍÝ Ñâï ÕÇâôÕëÔ áâ½Û ÁÇâÕëÔ áBÒâÖÌë Ô½Èä ÏËä ÏâÏÈâë, ÁëëÑ »ë áëÌçï ÏïËâÓÇ, ÚëÈç áÌë ÖïÐãÕÈ Áâë¼Ñâë ãÕ½ëÓë ÏËçï Á vÒã»ÈÌë ÖïÍèÇô ÓäÈë ÖÑÁâÕÕâÑâï ááÕëÔçï Àë. ÑâÓä ËâÓÇâ ÑçÁÏ Ðâ½ÔëÌâÓ vÒã»È áâ Öï×âëËÌÑâï Ðâ½ÔëÕâ ÑâÃë áãË»öÈ ÜÑÈâ ËÓâÕë Àë. áÌë ÍâëÈë ÑÓ‘ÒâÈ ÍÇë áÌë ÖÑÁÊâÓä ÍèÕô» Ðâ½ ÔëÕâ ÑâÃë ÖïÍãÈ ááÍë Àë.

×âëË»Èâô Ìä ÖÚä ð _____ ÈâÓä¼ ð _____

_____

×âëË»Èâô Ìçï ÌâÑ ð _____

ÖïÍ»ô vÒã»Èáâë ð _____

ÕËç ÑâãÚÈä ÍýWÌâë ÑâÃë Ìä¿ëÌâ ÖÓÌâÑë ÖïÍ»ô »Óä ×»âë Àâë.

Åâô. »âëÑÔ ¿âìÚâÇ Ñâë. Ìï. 9898790340

ÍèÁâ ãÑsÝä Ñâë. Ìï. 9998307057

Appendix – III

Dietary profile:

1. Food Habit: Vegetarian (1) Non Vegetarian (2) ☐

2. Number of meals taken/ day: Less (1) Adequate (2) Over (3) ☐

* Less: 1-2 meals, adequate: 3-4 meals, over: >4 meals

3. Dietary intake within Last 24 hours:

Sr. No.	Meal Pattern	Name of Recipe	Quantity Consumed (cooked)	Ingredients (raw/ cooked)	Raw Quantity (g/ml)
	Breakfast				
	Lunch				
	Evening snacks				
	Dinner				
	Before bed				

Total Nutrient Intake by the subject:

Intake	Energy (Kcal)	Protein (gm)	Fat (gm)	Calcium (mg)	Vitamin D (µgm)
Calculated					
RDA					
Difference					

Appendix – IV

Food Frequency Questionnaire:

Food stuff from high to low Calcium content	Frequency of consumption						
	Daily	**4-5 times/wk**	**2-3 times/wk**	**Once /wk**	**Occasionally**	**Never**	**Seasonal**
Cereal grains and products							
Ragi							
Atta							
Bajra							
Jowar							
Rice, puffed							
Maida							
Rice, flakes							
Bread, brown							
Semolina							
Bread, white							
Maize, dry							
Rice, raw, milled							
Pulses and legumes							
Rajmah							
Soya bean							
Bengal gram, whole							
Green gram, whole							
Green gram, dhal							
Peas dry							
Red gram, dhal							
Lentil							
Bengal gram, roasted							
Bengal gram dhal							
Peas green							
Leafy vegetables							
Curry leaves							
Cauliflower greens							
Colocasia leaves							
Food stuff from high to low Calcium content	**Frequency of consumption**						
	Daily	**4-5 times/wk**	**2-3 times/wk**	**Once /wk**	**Occasionally**	**Never**	**Seasonal**
Fenugreek leaves							
Garden cress							
Spinach							
Roots and tubers							

Carrot							
Onion							
Colocasia							
Other vegetables							
Field beans							
Cluster beans							
Ladies fingers							
Tindola							
Kankoda							
Cauliflower							
Parwar							
Nuts and oil seeds							
Gingelly							
Coconut dry							
Almond							
Pistachio							
Walnut							
Groundnut							
Groundnut roasted							
Fruits							
Currants							
Wood apple							
Phalsa							
Dates, dried							
Apricot, dry							
Lime							
Lemon							
Amla							
Guava							
Lime sweet							
Musambi							
Lemon sweet							
Banana ripe							
Apple							
Jambu fruit							
Food stuff from high to low Calcium content	**Frequency of consumption**						
	Daily	**4-5 times/ wk**	**2-3 times/wk**	**Once /wk**	**Occasionally**	**Never**	**Seasonal**
Fishes and other sea foods							
Shrimp(small dried)							
Crab small							
Crab muscle							
Rohu							
Katla							
Prawn							
Pomfrets							
Hilsa							

Meat and poultry							
Mutton, muscle							
Beef							
Egg, hen							
Pork, muscle							
Goat meat							
Buffalo meat							
Milk and milk products							
Milk							
Paneer							
Curd							
Butter milk							
Sugars							
Jaggery(cane)							
Sago							
Honey							
Cooked Item, Readymade items							
Milk Based							
Doodh paak							
Shrikhand							
Custard							
Fruit salad							
Milk shake							
Khoa based							
Burfi							
Peda							
Cereal based							
Gulab jamun							
Halwa							
Food stuff from high to low Calcium content	**Frequency of consumption**						
	Daily	**4-5 times/ wk**	**2-3 times/wk**	**Once /wk**	**Occasionally**	**Never**	**Seasonal**
Handwa							
Muthia							
Patra							
Namkeen							
Deep fried item							
Chips							
Cheese based							
Pizza							
Burger							
Sandwich							
Beverage							
Tea							
Coffee							
Cold drinks							

***Frequent consumption: Daily, 4-5 times and 2-3 times**

***Non frequent consumption: Once in a week, occasionally**

Appendix – V

Checklist for major illnesses

Chronic illnesses					
Problems	**Y**	**N**	**Problems**	**Y**	**N**
1. Oral Cavity			Weight loss with intolerance of fatty food & swelling in upper abdomen		
Ulcers			Others		
Inflammation of tongue			**5. Respiratory tract**		
Excess salivation			Recurrent cold		
Lack of salivation			Spells of sneezing		
Altered salivation			Running nose		
Missing or broken teeth			Tonsillitis / Pharyngitis		
Full/partial denture			Laryngitis/ cough		
Caries/ toothache			Hoarse voice / pain in swallowing		
Swollen/ sore gums			Bronchitis / irritating dry cough with pain & discomfort		
Problems of chewing			Pneumonia		
Others			Lung cancer		
2. Gastrointestinal Tract			Asthma		
Nausea			Any other respiratory disease		
Vomiting			Others		
Heartburn			**6. Locomotors System**		
Gastritis			**a) Bones**		
Gastroenteritis			Osteomalacia		
Ulcerative/ any other colitis			Osteoporosis		
Fullness/ gaseous distension			**b) Joints**		
Flatulence			Osteoarthritis		
Dyspepsia			Rheumatoid arthritis		
Constipation			Septic arthritis		
Diarrhoea			Spondylitis		
Altered stool			Muscles		
Dyspepsia			Others		
Abdominal pain			**7. Endocrine system**		
Others			Hypoglycaemia		
3. Hepato-biliary tract			Diabetes mellitus		
Jaundice			Hypothyroidism		
Hepatitis			Hyperthyroidism		
Cholecystesis/Choleliyhiasis			Others		
Any other liver/ gall bladder disease			**8. CNS**		
Others			Tension		
4. Pancreas			Migraine		
Pain following or during febrile illness or alcohol consumption			Disturbed sleep		
Vomiting, abdominal pain,			Sudden/gradual onset dimness		

diarrhoea, collapse			of vision		
Large, bulky, fatty, floating stools			Double vision		
9. Genito-urinary system			**10. Cardiovascular system**		
Upper/ lower urinary tract infection			Rheumatic heart disease • Hypertension		
Pain in lower abdomen					
High frequency of urination			Ischemic heart disease • Angina pectoris • Coronary insufficiency		
Upper or lower urinary tract calculi					
Nephrotic syndrome					
Acute / chronic renal failure			Myocardial infarction & post infarct complication		
Dialysis			Heart rhythm disorders		
Dysphagia			Tachycardia		
Drop attacks			Bradycardia		
Convulsive attacks			Others		
Difficulty in hearing					
Speech problem					
Others					
Minor illnesses					
Infection			**3. Psychological problems**		
1. Viral fever			Low mood		
Malaria			Lethargy		
Influenza			No interest		
2. Other infections			**4. Aches**		
Throat			Back pain		
Skin • Itching • Dryness of skin			Head ache		
Eyes			Muscle pain		
Ears			Pain in joints		
Teeth			Dizziness		
Smell			Others		
Speech					
Hair					

Appendix – VI

24 hours activity recall questionnaire

Activities	**Time spent in hours**
1. Activity of daily living	
Get ready	
Cooking	
Dusting	
Sweeping/mopping	
Washing clothes/utensil	
Other house hold work	
2. Leisure activities	
Watching TV	
Listening music	
Reading/writing	
Shopping	
Gardening	
Stitching	
Art/painting	
3.Exercise	
walking	
Other exercise	
4.Yoga	
Yogasan	
Meditation	
5social/religious activities	
Chatting with friends/neighbors	
Visiting friends & relatives	
Doing prayer at home	
Reciting mantras	
Visiting religious place	
Bhajan/satsang	
Mahilamandal/kittyparty	
Attending functions/organisations	
Visiting theatre/exhibition	
6.Sleep/rest	
7.Idle time	

Appendix – VII

Date: _____ to _____ Group: _____ Month of supplementation 1st 2nd 3rd 4th 5th 6th

Monitoring schedule for DAILY consumption of Ca tablet/food supplement √ - consumed x – not consumed

No	ID	Name	Age	Sex	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
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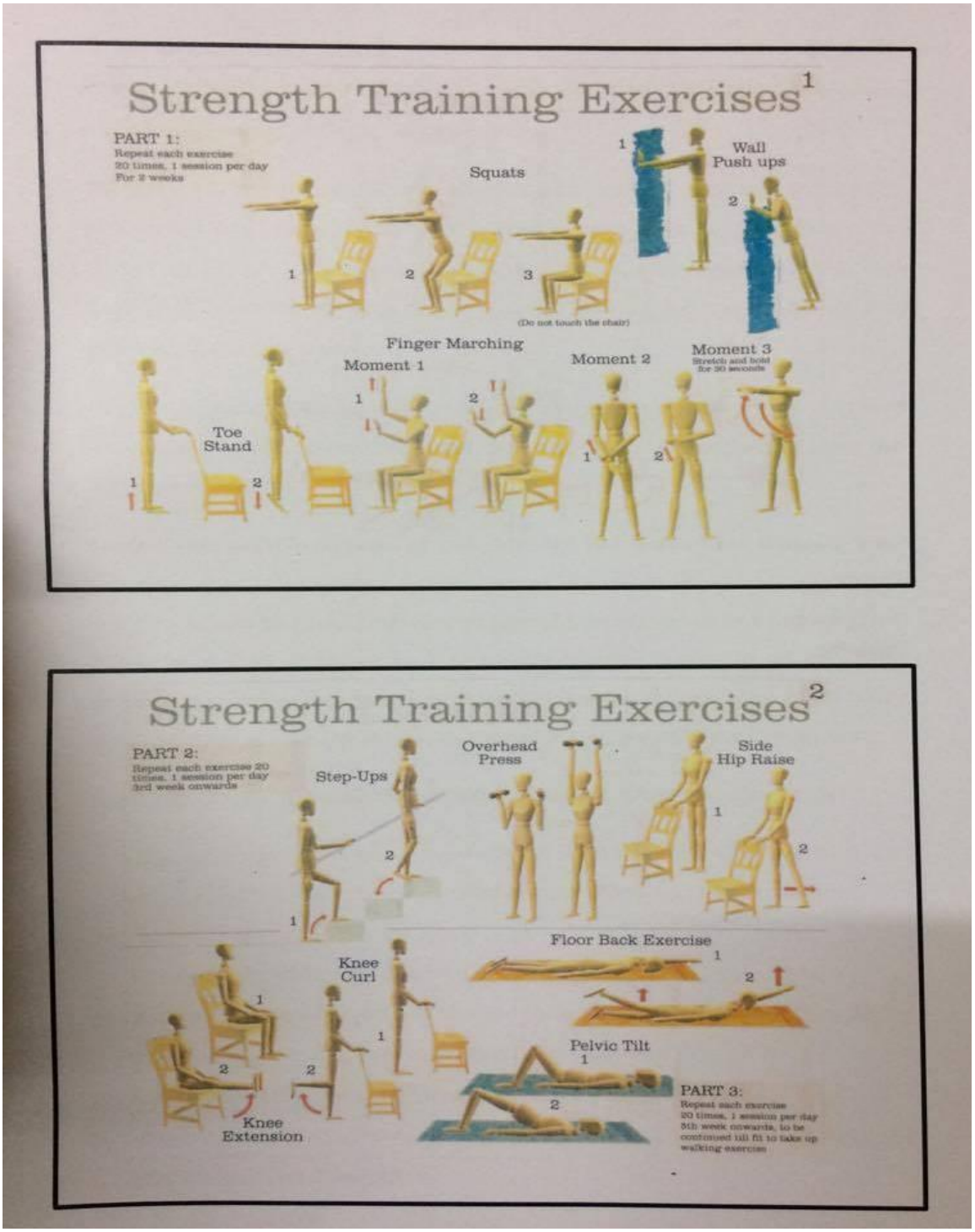
Everyday consumption of each month would be recorded (from 1st to 31st)

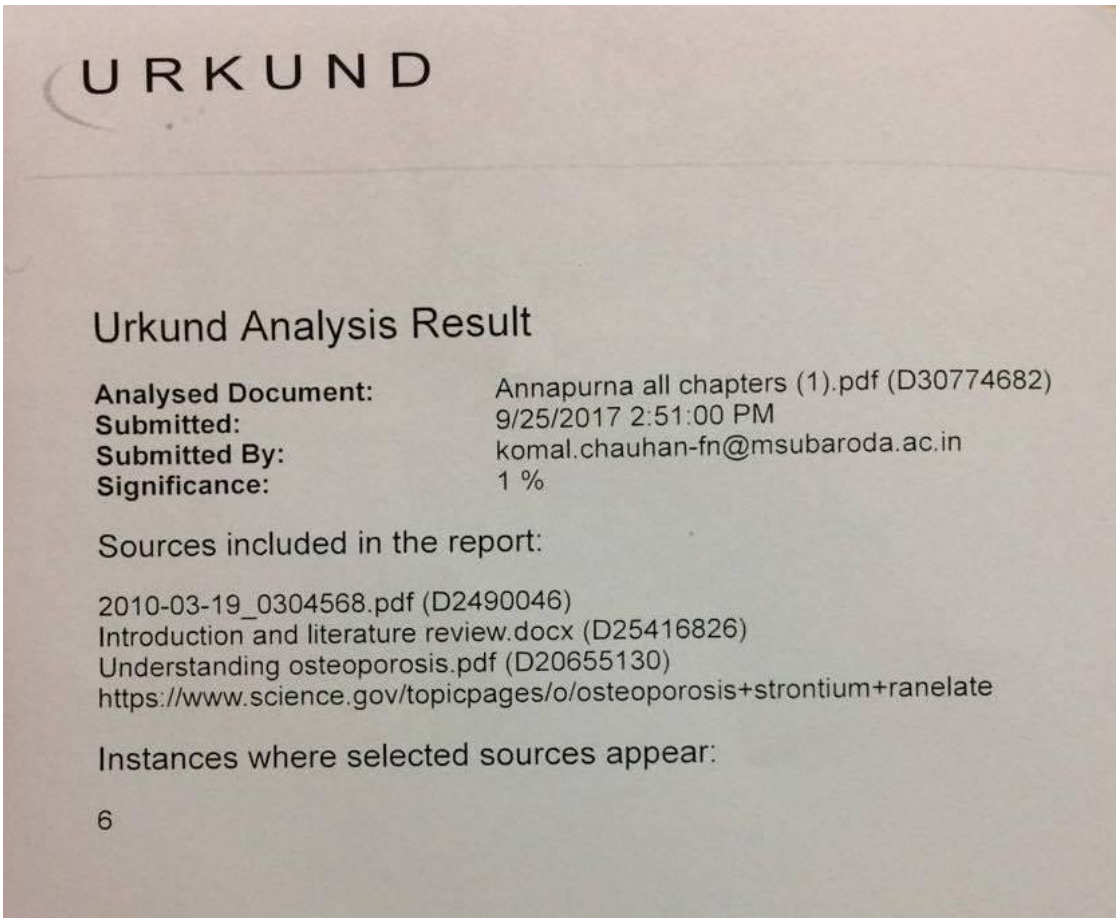
Appendix – VIII

Weight bearing exercise (Module – I and II)



Appendix – IX

Certificate for Plagiarism check using Urkund



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2010-03-19_0304568.pdf (D2490046)
Introduction and literature review.docx (D25416826)
Understanding osteoporosis.pdf (D20655130)
https://www.science.gov/topicpages/o/osteoporosis+strontium+ranelate

Instances where selected sources appear:

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