

VI. Blood and Urine Analysis

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Venous blood sample and urine were obtained after an overnight fast.

Urine is analyzed using semi-quantitative test tape.

1) Blood chemistry

Total protein (g/dl)

Triglyceride (mg/dl)

Total cholesterol (mg/dl)

HDL-cholesterol (mg/dl)

Uric acid (mg/dl)

Creatinine (mg/dl)

Calcium (mg/dl)

Phosphorus (mg/dl)

Glutamate oxaloacetate transaminase, GOT (IU/l)

Glutamate pyruvate transaminase, GPT (IU/l)

Alkaline phosphatase (IU/l)

Gamma-glutamyltransferase (IU/l)

Cholinesterase (IU/l)

Iron ($\mu\text{g/dl}$)

Sialic acid (mg/dl)

Fasting glucose (mg/dl)

Fasting insulin ($\mu\text{U/ml}$)

Hemoglobin A1c (%)

Albumin (mg/dl) direct method

2) Complete blood cell count

White blood cell count ($/\mu\text{l}$)

Red blood cell count ($\times 10000/\mu\text{l}$)

Hemoglobin (g/dl)

Hematocrit (%)

MCV (fl)

MCH (pg)

MCHC (%)

Platelet count ($\times 10000/\mu\text{l}$)

1) Blood chemistry

Total protein (g/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	7.5	0.4	286	7.4	0.4	295	7.5	0.4	300	7.6	0.5	255	7.7	0.5	53	7.5	0.5	1189
Female	7.5	0.4	293	7.5	0.4	282	7.5	0.4	273	7.6	0.5	285	7.5	0.4	59	7.5	0.4	1192
Total	7.5	0.4	579	7.5	0.4	577	7.5	0.4	573	7.6	0.5	540	7.6	0.4	112	7.5	0.4	2381

Albumin (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	4764.1	281.4	286	4671.9	330.1	295	4597.8	318.9	300	4476.9	357.1	255	4454.2	324.8	53	4623.8	338.9	1189
Female	4610.8	300.8	293	4615.0	306.5	282	4556.7	317.3	273	4502.4	353.6	285	4436.4	360.0	59	4564.9	326.1	1192
Total	4686.5	301.0	579	4644.1	319.8	577	4578.2	318.5	573	4490.4	355.2	540	4444.8	342.4	112	4594.3	333.8	2381

Triglyceride (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	124.8	76.5	282	138.7	96.2	291	125.3	82.8	295	119.7	64.8	246	106.5	48.1	49	126.5	80.7	1163
Female	78.1	42.0	286	100.9	70.9	278	116.8	61.6	265	112.6	53.5	270	112.5	47.7	58	102.2	59.2	1157
Total	101.3	65.8	568	120.2	86.8	569	121.3	73.6	560	116.0	59.2	516	109.8	47.8	107	114.4	71.8	2320

Total cholesterol (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	209.6	33.5	286	212.1	33.2	295	208.4	32.1	300	203.1	33.9	255	203.5	35.0	53	208.3	33.4	1189
Female	203.4	28.5	293	228.7	34.4	282	230.6	31.4	273	222.7	32.8	285	219.5	33.7	59	221.0	33.6	1192
Total	206.4	31.2	579	220.2	34.8	577	219.0	33.6	573	213.4	34.7	540	211.9	35.1	112	214.6	34.1	2381

Uric acid (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	6.1	1.2	286	5.9	1.2	295	5.8	1.3	300	5.8	1.4	255	5.8	1.2	53	5.9	1.3	1189
Female	4.0	0.9	293	4.5	1.0	282	4.6	1.0	273	4.8	1.1	285	4.8	1.2	59	4.5	1.1	1192
Total	5.1	1.5	579	5.2	1.3	577	5.2	1.3	573	5.3	1.3	540	5.3	1.3	112	5.2	1.4	2381

Creatinine (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.8	0.1	286	0.8	0.1	295	0.9	0.6	300	0.9	0.2	255	0.9	0.2	53	0.9	0.3	1189
Female	0.6	0.1	293	0.6	0.1	282	0.6	0.2	273	0.7	0.2	285	0.7	0.2	59	0.6	0.1	1192
Total	0.7	0.2	579	0.7	0.2	577	0.8	0.4	573	0.8	0.2	540	0.8	0.2	112	0.8	0.3	2381

Calcium (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	9.5	0.3	286	9.4	0.3	295	9.4	0.3	300	9.3	0.3	255	9.4	0.3	53	9.4	0.3	1189
Female	9.3	0.3	293	9.5	0.3	282	9.5	0.3	273	9.4	0.4	285	9.4	0.4	59	9.4	0.3	1192
Total	9.4	0.3	579	9.5	0.3	577	9.4	0.3	573	9.4	0.3	540	9.4	0.4	112	9.4	0.3	2381

Glutamate oxaloacetate transaminase, GOT (IU/l)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	23.6	11.5	286	24.4	10.0	295	24.7	9.4	300	27.7	17.4	255	27.8	10.7	53	25.2	12.3	1189
Female	19.0	6.3	293	22.5	10.6	282	24.0	9.6	273	24.9	9.5	285	22.6	4.9	59	22.6	9.2	1192
Total	21.3	9.5	579	23.5	10.3	577	24.4	9.5	573	26.2	13.8	540	25.1	8.6	112	23.9	10.9	2381

Glutamate pyruvate transaminase, GPT (IU/l)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	29.1	22.5	286	27.9	21.7	295	23.8	13.0	300	23.1	16.9	255	20.8	11.5	53	25.8	18.8	1189
Female	16.6	9.1	293	20.9	14.4	282	21.1	12.4	273	20.3	19.7	285	15.4	5.2	59	19.5	14.2	1192
Total	22.8	18.2	579	24.4	18.8	577	22.5	12.8	573	21.7	18.5	540	17.9	9.1	112	22.6	17.0	2381

Phosphorus (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	3.3	0.4	286	3.2	0.4	295	3.2	0.4	300	3.2	0.4	255	3.3	0.5	53	3.2	0.4	1189
Female	3.5	0.4	293	3.8	0.4	282	3.8	0.4	273	3.7	0.4	285	3.7	0.4	59	3.7	0.4	1192
Total	3.4	0.4	579	3.5	0.5	577	3.5	0.5	573	3.5	0.5	540	3.5	0.5	112	3.5	0.5	2381

Gamma-glutamyltransferase (IU/l)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	48.9	42.0	286	56.6	65.4	295	51.5	52.8	300	44.9	51.6	255	35.0	33.6	53	50.0	53.2	1189
Female	19.9	12.3	293	29.2	27.7	282	26.4	23.0	273	26.0	28.6	285	24.9	22.5	59	25.3	23.8	1192
Total	34.3	34.0	579	43.2	52.4	577	39.5	43.2	573	34.9	42.1	540	29.7	28.6	112	37.6	43.0	2381

Cholinesterase (IU/l)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	386.5	89.7	286	373.3	94.7	295	354.9	92.2	300	329.8	78.6	255	300.9	69.7	53	359.3	91.6	1189
Female	321.7	77.9	293	370.4	91.8	282	373.2	77.1	273	358.9	105.4	285	341.4	57.2	59	354.9	89.8	1192
Total	353.7	89.9	579	371.9	93.2	577	363.6	85.7	573	345.2	94.8	540	322.2	66.4	112	357.1	90.7	2381

Iron ($\mu\text{g}/\text{dl}$)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	122.2	38.5	286	115.7	38.7	295	115.8	38.0	300	113.1	34.4	255	103.5	35.9	53	116.2	37.6	1189
Female	103.1	50.8	293	109.1	33.9	282	106.7	32.8	273	101.2	29.2	285	87.8	31.5	59	104.1	37.8	1192
Total	112.5	46.1	579	112.5	36.6	577	111.4	35.9	573	106.8	32.3	540	95.2	34.4	112	110.1	38.2	2381

Insulin ($\mu\text{U}/\text{ml}$)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	7.6	5.0	283	7.8	7.9	295	7.1	10.3	297	8.4	8.8	251	8.6	13.0	51	7.8	8.5	1177
Female	7.0	4.9	289	6.4	4.3	280	7.4	5.5	268	8.0	5.0	276	6.2	3.1	58	7.2	4.9	1171
Total	7.3	5.0	572	7.2	6.4	575	7.3	8.4	565	8.2	7.1	527	7.3	9.2	109	7.5	6.9	2348

Sialic acid (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	58.2	5.7	286	59.6	6.7	295	61.4	8.5	300	62.9	7.5	255	65.2	8.8	53	60.7	7.5	1189
Female	57.6	6.9	293	60.1	6.9	282	62.1	7.0	273	63.7	7.9	285	65.8	8.9	59	61.1	7.7	1192
Total	57.9	6.3	579	59.9	6.8	577	61.7	7.8	573	63.3	7.8	540	65.5	8.8	112	60.9	7.6	2381

HDL-cholesterol (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	60.4	15.3	286	58.8	13.6	295	57.7	13.9	300	55.3	14.6	255	62.2	18.1	53	58.3	14.6	1189
Female	72.4	15.7	293	70.6	15.3	282	64.4	13.6	273	63.1	15.6	285	63.4	14.5	59	67.5	15.6	1192
Total	66.5	16.6	579	64.6	15.6	577	60.9	14.2	573	59.4	15.7	540	62.8	16.2	112	62.9	15.8	2381

Fasting glucose (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	96.8	11.2	282	105.5	24.2	291	106.2	21.6	295	105.5	18.8	246	101.9	15.3	49	103.4	19.8	1163
Female	92.6	11.0	286	96.4	15.0	278	100.2	24.0	265	102.8	24.6	270	105.0	26.2	58	98.2	20.2	1157
Total	94.7	11.3	568	101.1	20.7	569	103.4	22.9	560	104.0	22.0	516	103.6	21.9	107	100.8	20.2	2320

Hemoglobin A1c (%)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	5.1	0.4	286	5.4	0.9	295	5.6	0.9	300	5.5	0.8	255	5.4	0.5	53	5.4	0.8	1189
Female	5.0	0.4	293	5.3	0.5	283	5.5	0.8	273	5.4	0.6	285	5.6	0.8	59	5.3	0.7	1193
Total	5.0	0.4	579	5.4	0.7	578	5.5	0.9	573	5.5	0.7	540	5.5	0.7	112	5.4	0.7	2382

2) Complete blood cell count

White blood cell count (μl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	5885.7	1677.3	286	5827.8	1484.6	295	5718.3	1518.9	300	5742.0	1515.4	255	5773.6	1490.4	53	5793.3	1547.1	1189
Female	5263.1	1389.4	293	4945.9	1300.1	283	5122.3	1268.2	273	5351.6	1303.6	285	5342.4	1296.6	59	5180.7	1323.0	1193
Total	5570.6	1568.3	579	5396.0	1464.2	578	5434.4	1435.1	573	5535.9	1419.8	540	5546.4	1402.1	112	5486.5	1471.2	2382

Red blood cell count ($\times 10000/\mu\text{l}$)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	510.3	38.9	286	500.8	39.0	295	490.7	46.8	300	477.3	47.2	255	456.5	52.8	53	493.5	45.7	1189
Female	450.7	38.2	293	458.1	37.7	283	457.9	37.8	273	446.2	38.4	285	433.5	48.4	59	452.2	39.1	1193
Total	480.2	48.7	579	479.9	43.9	578	475.1	45.8	573	460.9	45.5	540	444.4	51.6	112	472.8	47.3	2382

Hemoglobin (g/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	16.2	1.1	286	16.1	1.2	295	15.9	1.3	300	15.4	1.4	255	14.6	1.5	53	15.9	1.3	1189
Female	13.6	1.5	293	14.1	1.2	283	14.2	1.2	273	14.0	1.1	285	13.3	1.5	59	13.9	1.3	1193
Total	14.9	1.9	579	15.1	1.5	578	15.1	1.5	573	14.7	1.5	540	13.9	1.7	112	14.9	1.6	2382

Hematocrit (%)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	48.7	3.3	286	48.6	3.3	295	47.9	4.1	300	46.7	4.2	255	44.5	4.6	53	47.8	3.9	1189
Female	41.6	4.0	293	43.4	3.4	283	43.8	3.5	273	42.9	3.5	285	41.4	4.5	59	42.8	3.8	1193
Total	45.1	5.1	579	46.0	4.3	578	45.9	4.3	573	44.7	4.3	540	42.9	4.8	112	45.3	4.6	2382

MCV (fl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	95.7	4.4	286	97.2	4.5	295	97.7	4.3	300	98.0	5.3	255	97.7	5.0	53	97.2	4.7	1189
Female	92.5	7.0	293	94.8	5.1	283	95.7	3.8	273	96.4	4.0	285	95.7	5.3	59	94.9	5.4	1193
Total	94.0	6.1	579	96.0	5.0	578	96.8	4.2	573	97.2	4.7	540	96.6	5.3	112	96.0	5.2	2382

MCH (pg)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	31.9	1.5	286	32.2	1.6	295	32.4	1.6	300	32.4	2.1	255	32.1	2.1	53	32.2	1.7	1189
Female	30.1	3.0	293	30.8	1.8	283	31.1	1.4	273	31.4	1.4	285	30.8	2.1	59	30.9	2.1	1193
Total	31.0	2.5	579	31.5	1.8	578	31.8	1.6	573	31.9	1.8	540	31.4	2.2	112	31.5	2.0	2382

MCHC (%)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	33.3	0.9	286	33.1	1.0	295	33.1	1.0	300	33.0	1.1	255	32.9	1.1	53	33.1	1.0	1189
Female	32.5	1.3	293	32.5	1.1	283	32.5	1.0	273	32.6	0.9	285	32.1	1.1	59	32.5	1.1	1193
Total	32.9	1.2	579	32.8	1.1	578	32.8	1.0	573	32.8	1.0	540	32.5	1.1	112	32.8	1.1	2382

Platelet count (x10000/ μ l)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	21.4	5.0	285	20.5	4.7	290	19.8	5.8	296	19.0	5.1	254	18.4	5.4	52	20.1	5.3	1177
Female	23.3	6.7	290	21.4	5.1	280	21.0	4.9	269	19.9	4.7	284	21.9	6.1	59	21.5	5.6	1182
Total	22.4	6.0	575	20.9	4.9	570	20.4	5.4	565	19.5	4.9	538	20.3	6.0	111	20.8	5.5	2359

VII. Psychological Examinations

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1) Depressive symptoms

1. Center for Epidemiologic Studies Depression Scale (CES-D)

CES-D: total score of 4 subscales (20 items. possible range 0-60)

CES-D subscale 1: somatic and retarded activity (7 items. possible range 0-21)

CES-D subscale 2: depressed affect (7 items. possible range 0-21)

CES-D subscale 3: positive affect (4 items. possible range 0-12)

CES-D subscale 4: interpersonal relations (2 items. possible range 0-6)

CES-D: parameter of distribution using cutoff score

2. Geriatric Depression Scale (GDS)

GDS (15 items. possible range 0-15. less than 60 years older unperformed)

GDS parameter of distribution using cutoff score

2) Subjective Well-being

1. Life Satisfaction Index-K (LSI-K)

LSI-K: total score of 3 subscales (9 items. possible range 0-9)

LSI-K subscale 1: satisfaction with life as a whole (4 items. possible range 0-4)

LSI-K subscale 2: psychological stability (3 items. possible range 0-3)

LSI-K subscale 3: evaluation of own aging (2 items. possible range 0-2)

2. The World Health Organization Quality of Life Assessment (WHO/QOL-BREF)

WHO/QOL-BREF subscale 1: physical health (7 items. possible range 7-35)

WHO/QOL-BREF subscale 2: psychological well-being (6 items. possible range 6-30)

WHO/QOL-BREF subscale 3: social relationships (3 items. possible range 3-15)

WHO/QOL-BREF subscale 4: environment (8 items. possible range 8-40)

WHO/QOL-BREF: Overall Quality of Life (2 items. possible range 2-10)

3) Personality

1. Rosenberg Self-Esteem Scale

Rosenberg self-esteem scale: total score of 10 items (possible range 10-40)

4) Social Relations

1. Interpersonal Relationship Index (IPRI)

IPRI subscale 1: reciprocity (13 items. possible range 13-65)

IPRI subscale 2: conflict (13 items. possible range 13-65)

IPRI subscale 3: support (13 items, possible range 13-65)

5) Stress-Related Factors

1. Stress Checklist

Total number of life events experienced between the surveys (possible range 0-60)

6) Activities of Daily Living

1. Tokyo Metropolitan Institute of Gerontology (TMIG) Index of Competence

TMIG index of competence: total score of 13 items (possible range 0-13)

2. Katz Index

7) Intelligence and Cognitive Function

1. Wechsler Adult Intelligence Scale-Revised Short Forms (WAIS-R-SF)

WAIS-R-SF: estimated total score with four-subtest full scale (possible range 6-76)

WAIS-R-SF: estimated intelligence quotient (EIQ) with four-subtest full scale

WAIS-R-SF: parameter of distribution by EIQ level

WAIS-R-SF subtest 1: information (29 items, possible range 0-29)

WAIS-R-SF subtest 2: similarities (14 items, possible range 0-28)

WAIS-R-SF subtest 3: picture completion (21 items, possible range 0-21)

WAIS-R-SF subtest 4: digit symbol (possible range 0-93)

2. Short-term Memory Function

Short-term memory function: WAIS-R digit span (possible range 0-28)

3. Verbal Memory Function

Verbal memory function: WMS-R logical memory I (possible range 0-50)

Verbal memory function: WMS-R logical memory II (possible range 0-50)

4. Mini Mental State Examination (MMSE)

MMSE: total score of 30 items (possible range 0-30, less than 60 years older unperformed)

MMSE: parameter of distribution using cutoff score

8) Other measures

1. Social and Domestic Activities

Overall household duties

Preparation of a meal

Dishwashing after a meal

Household shopping

Cleaning inside and outside the home

Laundry work

Primary childcare

Taking out the garbage

Gardening

Home maintenance

Participation in hobby groups

Participation in block clubs

9) Background examinations

Life style on holidays (1st rank in frequency)

Life style on holidays (2nd rank in frequency)

Life style on holidays (3rd rank in frequency)

Present life worth living

State of employment

Present job

Period of full employment (years)

Years of education

Marital status

State of marriage

Sum of family annual income

Level of satisfaction in annual income

1) Depression Scales

1. The Center for Epidemiologic Studies Depression Scale (CES-D)

The Japanese version of the scale comprises 20 items with 4 options, the same as the original. This scale consists of 4 subscales as follows: somatic and retarded activity, depressed affect, positive affect, and interpersonal relations. Higher scores indicate higher depressive symptoms. A person with total score at and above 16 is supposed to have clinically significant depressive tendency.

CES-D :total score of 4 subscales (20 items. possible range 0-60)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	7.2	6.7	286	7.2	6.7	294	6.6	6.5	293	7.5	7.4	247	10.8	8.6	52	7.3	6.9	1172
Female	7.7	6.6	292	8.0	7.2	279	8.0	7.4	267	10.0	8.4	272	10.5	7.8	55	8.5	7.5	1165
Total	7.5	6.7	578	7.6	6.9	573	7.2	7.0	560	8.8	8.0	519	10.7	8.2	107	7.9	7.2	2337

CES-D subscale 1: somatic and retarded activity (7 items. possible range 0-21)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	2.3	2.8	286	2.1	2.6	295	2.1	2.6	299	2.6	3.5	253	3.5	3.4	52	2.3	2.9	1185
Female	2.4	2.5	294	2.6	2.9	283	2.7	3.0	270	3.6	3.7	280	4.1	3.8	58	2.9	3.1	1185
Total	2.3	2.7	580	2.4	2.7	578	2.4	2.8	569	3.1	3.6	533	3.8	3.6	110	2.6	3.0	2370

CES-D subscale 2: depressed affect (7 items. possible range 0-21)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1.7	2.3	286	1.6	2.3	294	1.4	2.1	298	1.7	2.6	251	2.8	3.1	52	1.6	2.4	1181
Female	2.0	2.6	294	2.0	2.6	281	1.9	2.7	270	2.4	3.1	278	2.0	2.6	55	2.1	2.7	1178
Total	1.8	2.4	580	1.8	2.5	575	1.6	2.4	568	2.0	2.9	529	2.4	2.9	107	1.9	2.6	2359

CES-D subscale 3: positive affect (4 items. possible range 0-12)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	3.0	2.6	286	3.1	2.7	295	2.8	2.9	299	3.2	3.0	252	4.0	3.6	52	3.1	2.8	1184
Female	3.2	2.6	293	3.1	2.7	281	3.1	2.7	272	3.8	3.1	282	4.1	2.7	57	3.3	2.8	1185
Total	3.1	2.6	579	3.1	2.7	576	3.0	2.8	571	3.6	3.1	534	4.1	3.1	109	3.2	2.8	2369

CES-D subscale 4: interpersonal relations (2 items, possible range 0-6)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.3	0.7	286	0.3	0.9	295	0.2	0.6	297	0.4	0.9	253	0.6	1.2	52	0.3	0.8	1183
Female	0.2	0.6	293	0.3	0.7	283	0.2	0.7	273	0.3	0.9	279	0.2	0.6	58	0.3	0.7	1186
Total	0.3	0.6	579	0.3	0.8	578	0.2	0.6	570	0.4	0.9	532	0.4	0.9	110	0.3	0.8	2369

CES-D: parameter of distribution using cutoff score

		40-49yr		50-59yr		60-69yr		70-79yr		80yr-		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
Under score of 16	Male	255	89.2	261	88.8	262	89.4	216	87.4	38	73.1	1032	88.1
	Female	258	88.4	241	86.4	226	84.6	210	77.2	44	80.0	979	84.0
	Total	513	88.8	502	87.6	488	87.1	426	82.1	82	76.6	2011	86.1
At and above score of 16	Male	31	10.8	33	11.2	31	10.6	31	12.6	14	26.9	140	11.9
	Female	34	11.6	38	13.6	41	15.4	62	22.8	11	20.0	186	16.0
	Total	65	11.2	71	12.4	72	12.9	93	17.9	25	23.4	326	13.9

2. Geriatric Depression Scale (GDS)

GDS is another depression scale adopted in our research. Each of 15 items has yes/no response keys. Higher score indicates higher depressive symptoms. Total score of 6 and higher means significant depressive tendency. Only participants over 60 years old performed the scale in the NLS-LSA since this scale is designed specifically for elderly.

GDS (15 items. possible range 0-15. less than 60 years old unperformed)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0	0	0	0	0	0	2.8	2.6	297	3.5	3.2	248	3.8	3.2	48	3.2	3.0	593
Female	0	0	0	0	0	0	3.4	2.9	265	4.3	3.3	271	4.3	3.6	55	3.9	3.2	591
Total	0	0	0	0	0	0	3.1	2.8	562	3.9	3.3	519	4.1	3.4	103	3.5	3.1	1184

GDS parameter of distribution using cutoff score

		60-69yr		70-79yr		80yr-		Total	
		N	%	N	%	N	%	N	%
Under score of 6	Male	258	86.9	196	79.0	35	72.9	489	82.5
	Female	209	78.9	201	74.2	38	69.1	448	75.8
	Total	467	83.1	397	76.5	73	70.9	937	79.1
At and above score of 6	Male	39	13.1	52	21.0	13	27.1	104	17.5
	Female	56	21.1	70	25.8	17	30.9	143	24.2
	Total	95	16.9	122	23.5	30	29.1	247	20.9

2) Subjective Well-being

1. Life Satisfaction Index-K (LSI-K)

The LSI-K has 9 items with 2- or 3-point response format to measure overall subjective well-being. This scale also consists of 3 subscales include: satisfaction with life as a whole, psychological stability, and evaluation of own aging. Response to 3-point scale is dichotomized when calculating total score, so that the possible total score range is 0 to 9. Higher score indicates higher life satisfaction.

LSI-K: total score of 3 subscales (9 items, possible range 0-9)
 LSI-K subscale 1: satisfaction with life as a whole (4 items, possible range 0-4)
 LSI-K subscale 2: psychological stability (3 items, possible range 0-3)
 LSI-K subscale 3: evaluation of own aging (2 items, possible range 0-2)

LSI-K: total score of 3 subscales (9 items, possible range 0-9)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	5.0	1.9	286	5.2	1.9	295	5.3	2.0	297	4.8	2.2	251	4.3	2.3	48	5.0	2.0	1177
Female	5.3	2.0	292	5.3	1.9	278	5.3	2.2	272	4.4	2.4	278	4.1	2.1	58	5.0	2.2	1178
Total	5.1	2.0	578	5.2	1.9	573	5.3	2.1	569	4.6	2.3	529	4.2	2.2	106	5.0	2.1	2355

LSI-K subscale 1: satisfaction with life as a whole (4 items, possible range 0-4)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1.5	1.1	286	1.8	1.1	295	2.0	1.3	298	2.0	1.3	253	1.8	1.2	48	1.8	1.2	1180
Female	1.8	1.2	292	1.9	1.2	280	2.1	1.2	272	1.9	1.3	278	2.1	1.3	58	1.9	1.2	1180
Total	1.7	1.2	578	1.9	1.2	575	2.0	1.3	570	2.0	1.3	531	2.0	1.3	106	1.9	1.2	2360

LSI-K subscale 2: psychological stability (3 items, possible range 0-3)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1.8	0.9	286	1.8	0.9	295	1.8	0.9	300	1.6	0.9	253	1.6	1.1	49	1.7	0.9	1183
Female	1.7	1.0	294	1.7	0.9	280	1.6	1.0	273	1.4	1.0	281	1.3	0.9	59	1.6	1.0	1187
Total	1.8	0.9	580	1.8	0.9	575	1.7	0.9	573	1.5	1.0	534	1.4	1.0	108	1.7	0.9	2370

LSI-K subscale 3: evaluation of own aging (2 items, possible range 0-2)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1.7	0.6	286	1.6	0.6	295	1.5	0.6	299	1.1	0.8	253	0.9	0.7	49	1.5	0.7	1182
Female	1.7	0.6	294	1.6	0.6	283	1.5	0.7	273	1.1	0.8	281	0.7	0.8	59	1.4	0.7	1190
Total	1.7	0.6	580	1.6	0.6	578	1.5	0.7	572	1.1	0.8	534	0.8	0.7	108	1.5	0.7	2372

2. The World Health Organization Quality of Life Assessment (WHO/QOL-BREF)

This scale produces scores for four domains related to quality of life: physical health, psychological well-being, social relationships and environment. It also includes one facet on overall quality of life. All 26 items are rated on a 5-point scale with higher score indicating a higher quality of life.

WHO/QOL-BREF subscale 1: physical health (7 items, possible range 7-35)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	25.7	3.7	282	26.4	3.5	295	27.1	3.6	295	26.2	4.1	254	24.6	3.6	49	26.3	3.8	1175
Female	26.3	3.4	293	26.1	3.5	283	26.4	3.8	273	25.3	4.3	280	23.9	4.2	57	25.9	3.8	1186
Total	26.0	3.5	575	26.3	3.5	578	26.8	3.7	568	25.7	4.2	534	24.2	3.9	106	26.1	3.8	2361

WHO/QOL-BREF subscale 2: psychological well-being (6 items, possible range 6-30)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	21.2	3.3	283	21.3	3.3	295	22.0	3.4	297	21.6	4.0	251	20.8	3.2	48	21.5	3.5	1174
Female	20.8	3.4	292	21.2	3.2	282	21.5	3.5	270	20.5	3.7	281	20.4	3.7	54	20.9	3.5	1179
Total	21.0	3.3	575	21.2	3.3	577	21.8	3.5	567	21.0	3.9	532	20.6	3.5	102	21.2	3.5	2353

WHO/QOL-BREF subscale 3: social relationships (3 items, possible range 3-15)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	9.7	1.7	282	9.9	1.7	293	10.2	1.6	291	10.0	1.7	232	10.3	1.2	45	10.0	1.7	1143
Female	10.3	1.5	293	10.4	1.4	272	10.5	1.5	238	10.6	1.3	182	10.2	1.4	26	10.4	1.5	1011
Total	10.0	1.7	575	10.1	1.6	565	10.3	1.6	529	10.3	1.6	414	10.3	1.3	71	10.2	1.6	2154

WHO/QOL-BREF subscale 4: environment (8 items, possible range 8-40)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	26.9	4.1	281	27.8	4.0	295	28.2	4.3	292	28.0	4.4	253	28.1	3.4	49	27.7	4.2	1170
Female	27.4	3.7	292	28.0	3.5	278	28.1	3.9	271	27.5	3.9	276	28.0	3.6	54	27.7	3.8	1171
Total	27.1	3.9	573	27.9	3.8	573	28.2	4.1	563	27.7	4.2	529	28.0	3.5	103	27.7	4.0	2341

WHO/QOL-BREF: overall quality of Life (2 items. possible range 2-10)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	6.3	1.3	283	6.5	1.3	295	6.8	1.2	297	6.6	1.4	255	6.4	1.3	50	6.5	1.3	1180
Female	6.5	1.2	293	6.5	1.2	283	6.7	1.3	273	6.5	1.3	284	6.5	1.3	58	6.5	1.3	1191
Total	6.4	1.3	576	6.5	1.3	578	6.7	1.2	570	6.5	1.3	539	6.5	1.3	108	6.5	1.3	2371

3) Personality

1. The Rosenberg Self-Esteem Scale

This scale comprises 10 items (4 options) to measure self-regard, an evaluation of one's worthiness. Higher score indicates higher self-esteem

Rosenberg self-esteem scale:total score of 10 items (possible range 10-40)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	28.5	4.2	286	29.0	4.1	294	29.4	4.1	298	28.4	4.5	250	28.2	4.4	48	28.8	4.2	1176
Female	27.4	4.3	292	27.9	4.2	283	27.9	4.4	272	27.1	4.3	278	26.5	4.6	54	27.5	4.3	1179
Total	27.9	4.2	578	28.4	4.2	577	28.6	4.3	570	27.7	4.4	528	27.3	4.6	102	28.1	4.3	2355

4) Social Relations

1. Interpersonal Relationship Index (IPRI)

Interpersonal relationships are measured using 39-item scale (5 options). This scale assesses three aspects of social relationships: reciprocity, conflict, and support. Higher score of the scale indicate higher perception of each relationship.

IPRI subscale 1: reciprocity (13 items. possible range 13-65)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	43.5	8.1	282	43.8	8.6	295	44.6	9.4	297	44.2	10.4	250	44.7	8.4	49	44.0	9.1	1173
Female	48.3	8.0	292	47.0	8.4	283	48.6	8.1	270	48.4	9.8	281	48.4	9.3	55	48.1	8.7	1181
Total	45.9	8.4	574	45.4	8.7	578	46.5	9.1	567	46.4	10.3	531	46.7	9.0	104	46.1	9.1	2354

IPRI subscale 2: conflict (13 items. possible range 13-65)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	31.6	9.4	283	32.2	9.8	295	31.4	10.0	296	30.6	10.3	248	30.5	9.3	49	31.4	9.9	1171
Female	33.6	11.9	293	30.5	10.8	283	29.7	10.8	271	29.5	10.6	277	29.9	10.1	55	30.8	11.1	1179
Total	32.6	10.8	576	31.4	10.3	578	30.6	10.4	567	30.0	10.5	525	30.2	9.7	104	31.1	10.5	2350

IPRI subscale 3: support (13 items. possible range 13-65)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	48.1	9.1	283	47.8	9.3	295	47.5	9.4	295	46.6	11.2	250	49.3	10.0	49	47.6	9.7	1172
Female	52.8	8.1	293	52.4	8.6	283	53.2	8.5	272	52.3	10.7	279	52.6	11.5	56	52.7	9.1	1183
Total	50.5	8.9	576	50.1	9.2	578	50.2	9.4	567	49.6	11.3	529	51.1	10.9	105	50.1	9.8	2355