

Present job

		40-49yr		50-59yr		60-69yr		70-79yr		80yr-		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
Worker in agriculture, forestry and fishery	Male	3	1.0	8	2.7	4	1.3	19	7.5	3	5.7	37	3.1
	Female	3	1.0	3	1.1	8	2.9	3	1.1	2	3.4	19	1.6
	Total	6	1.0	11	1.9	12	2.1	22	4.1	5	4.5	56	2.3
Self-management other than agriculture, forestry and fishery	Male	10	3.5	13	4.4	15	5.0	6	2.4	2	3.8	46	3.9
	Female	7	2.4	8	2.8	6	2.2	5	1.8	1	1.7	27	2.3
	Total	17	2.9	21	3.6	21	3.7	11	2.0	3	2.7	73	3.1
Others	Male	0	0.0	1	0.3	10	3.3	4	1.6	1	1.9	16	1.3
	Female	10	3.4	7	2.5	5	1.8	1	0.4	1	1.7	24	2.0
	Total	10	1.7	8	1.4	15	2.6	5	0.9	2	1.8	40	1.7

Period of full employment (years)

	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	22.4	4.5	281	34.2	4.7	293	42.3	6.4	297	44.1	10.0	253	43.5	10.5	52	36.0	10.9	1176
Female	9.7	6.9	292	13.5	11.2	280	20.0	14.8	268	22.3	17.2	278	21.6	19.9	52	16.5	14.3	1170
Total	16.0	8.6	573	24.1	13.4	573	31.7	15.8	565	32.7	17.9	531	32.5	19.3	104	26.3	16.0	2346

Years of education

	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	14.5	2.4	283	13.4	2.6	295	12.4	2.8	298	11.1	2.8	254	10.8	3.0	52	12.8	3.0	1182
Female	13.5	1.8	293	12.5	2.2	283	11.5	2.3	272	10.2	2.3	282	9.8	2.2	56	11.8	2.5	1186
Total	14.0	2.2	576	12.9	2.5	578	12.0	2.6	570	10.6	2.6	536	10.3	2.6	108	12.3	2.8	2368

Marital status

		40-49yr		50-59yr		60-69yr		70-79yr		80yr-		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
Not recorded	Male	3	1.0	0	0.0	3	1.0	1	0.4	1	1.9	8	0.7
	Female	1	0.3	0	0.0	1	0.4	3	1.1	2	3.4	7	0.6
	Total	4	0.7	0	0.0	4	0.7	4	0.7	3	2.7	15	0.6
Unmarried	Male	27	9.4	10	3.4	3	1.0	3	1.2	0	0.0	43	3.6
	Female	14	4.8	6	2.1	5	1.8	12	4.2	2	3.4	39	3.3
	Total	41	7.1	16	2.8	8	1.4	15	2.8	2	1.8	82	3.4
Already married (co vers unregistered m- arriage)	Male	251	87.8	274	92.9	282	94.0	237	92.9	44	83.0	1088	91.5
	Female	265	90.1	256	90.5	224	82.1	155	54.4	24	40.7	924	77.4
	Total	516	89.0	530	91.7	506	88.3	392	72.6	68	60.7	2012	84.4
Separation	Male	2	0.7	3	1.0	0	0.0	2	0.8	0	0.0	7	0.6
	Female	2	0.7	4	1.4	2	0.7	1	0.4	1	1.7	10	0.8
	Total	4	0.7	7	1.2	2	0.3	3	0.6	1	0.9	17	0.7
Divorced	Male	3	1.0	6	2.0	5	1.7	0	0.0	0	0.0	14	1.2
	Female	10	3.4	8	2.8	7	2.6	9	3.2	2	3.4	36	3.0
	Total	13	2.2	14	2.4	12	2.1	9	1.7	2	1.8	50	2.1
Separation by death	Male	0	0.0	2	0.7	7	2.3	12	4.7	8	15.1	29	2.4
	Female	2	0.7	9	3.2	34	12.5	105	36.8	28	47.5	178	14.9
	Total	2	0.3	11	1.9	41	7.2	117	21.7	36	32.1	207	8.7

Resident status

		40-49yr		50-59yr		60-69yr		70-79yr		80yr-		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
Not recorded	Male	3	1.0	0	0.0	2	0.7	1	0.4	1	1.9	7	0.6
	Female	1	0.3	0	0.0	1	0.4	2	0.7	1	1.7	5	0.4
	Total	4	0.7	0	0.0	3	0.5	3	0.6	2	1.8	12	0.5
Living alone	Male	13	4.5	11	3.7	8	2.7	12	4.7	1	1.9	45	3.8
	Female	4	1.4	5	1.8	15	5.5	66	23.2	15	25.4	105	8.8
	Total	17	2.9	16	2.8	23	4.0	78	14.4	16	14.3	150	6.3
Husband and wife	Male	29	10.1	63	21.4	146	48.7	153	60.0	25	47.2	416	35.0
	Female	17	5.8	72	25.4	124	45.4	102	35.8	11	18.6	326	27.3
	Total	46	7.9	135	23.4	270	47.1	255	47.2	36	32.1	742	31.1
Others	Male	241	84.3	221	74.9	144	48.0	89	34.9	26	49.1	721	60.6
	Female	272	92.5	206	72.8	133	48.7	115	40.4	32	54.2	758	63.5
	Total	513	88.4	427	73.9	277	48.3	204	37.8	58	51.8	1479	62.1

Sum of family annual income

		40-49yr		50-59yr		60-69yr		70-79yr		80yr-		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
Not recorded	Male	3	1.0	2	0.7	6	2.0	6	2.4	4	7.5	21	1.8
	Female	2	0.7	4	1.4	5	1.8	22	7.7	11	18.6	44	3.7
	Total	5	0.9	6	1.0	11	1.9	28	5.2	15	13.4	65	2.7
Less than 1,500,000yen	Male	2	0.7	2	0.7	4	1.3	9	3.5	2	3.8	19	1.6
	Female	3	1.0	4	1.4	12	4.4	21	7.4	5	8.5	45	3.8
	Total	5	0.9	6	1.0	16	2.8	30	5.6	7	6.3	64	2.7
Between 1,500,000 and 2,490,000 yen	Male	2	0.7	3	1.0	23	7.7	17	6.7	5	9.4	50	4.2
	Female	4	1.4	7	2.5	20	7.3	41	14.4	10	16.9	82	6.9
	Total	6	1.0	10	1.7	43	7.5	58	10.7	15	13.4	132	5.5
Between 2,500,000 and 3,490,000 yen	Male	4	1.4	5	1.7	50	16.7	63	24.7	10	18.9	132	11.1
	Female	10	3.4	14	4.9	53	19.4	60	21.1	12	20.3	149	12.5
	Total	14	2.4	19	3.3	103	18.0	123	22.8	22	19.6	281	11.8
Between 3,500,000 and 4,490,000 yen	Male	10	3.5	10	3.4	49	16.3	55	21.6	14	26.4	138	11.6
	Female	16	5.4	14	4.9	45	16.5	36	12.6	7	11.9	118	9.9
	Total	26	4.5	24	4.2	94	16.4	91	16.9	21	18.8	256	10.7
Between 4,500,000 and 5,490,000 yen	Male	32	11.2	25	8.5	39	13.0	23	9.0	10	18.9	129	10.8
	Female	26	8.8	20	7.1	30	11.0	22	7.7	1	1.7	99	8.3
	Total	58	10.0	45	7.8	69	12.0	45	8.3	11	9.8	228	9.6
Between 5,500,000 and 6,490,000 yen	Male	52	18.2	12	4.1	33	11.0	19	7.5	0	0.0	116	9.8
	Female	34	11.6	19	6.7	21	7.7	15	5.3	6	10.2	95	8.0
	Total	86	14.8	31	5.4	54	9.4	34	6.3	6	5.4	211	8.9
Between 6,500,000 and 7,490,000 yen	Male	46	16.1	23	7.8	16	5.3	14	5.5	0	0.0	99	8.3
	Female	40	13.6	20	7.1	24	8.8	11	3.9	0	0.0	95	8.0
	Total	86	14.8	43	7.4	40	7.0	25	4.6	0	0.0	194	8.1
Between 7,500,000 and 8,490,000 yen	Male	43	15.0	32	10.8	19	6.3	10	3.9	0	0.0	104	8.7

(Continued)

Sum of family annual income

		40-49yr		50-59yr		60-69yr		70-79yr		80yr-		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
Between 7,500,000 and 8,490,000 yen	Female	38	12.9	29	10.2	15	5.5	13	4.6	1	1.7	96	8.0
	Total	81	14.0	61	10.6	34	5.9	23	4.3	1	0.9	200	8.4
Between 8,500,000 and 9,999,000 yen	Male	44	15.4	65	22.0	19	6.3	9	3.5	3	5.7	140	11.8
	Female	41	13.9	45	15.9	21	7.7	14	4.9	3	5.1	124	10.4
	Total	85	14.7	110	19.0	40	7.0	23	4.3	6	5.4	264	11.1
Between 10,000,000 and 19,000,000 yen	Male	42	14.7	105	35.6	35	11.7	23	9.0	5	9.4	210	17.7
	Female	74	25.2	99	35.0	21	7.7	22	7.7	3	5.1	219	18.3
	Total	116	20.0	204	35.3	56	9.8	45	8.3	8	7.1	429	18.0
More than 20,000,000 yen	Male	6	2.1	11	3.7	7	2.3	7	2.7	0	0.0	31	2.6
	Female	6	2.0	8	2.8	6	2.2	8	2.8	0	0.0	28	2.3
	Total	12	2.1	19	3.3	13	2.3	15	2.8	0	0.0	59	2.5

Level of satisfaction in annual income

		40-49yr		50-59yr		60-69yr		70-79yr		80yr-		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
Not recorded	Male	3	1.0	0	0.0	2	0.7	1	0.4	1	1.9	7	0.6
	Female	1	0.3	0	0.0	0	0.0	3	1.1	1	1.7	5	0.4
	Total	4	0.7	0	0.0	2	0.3	4	0.7	2	1.8	12	0.5
Very satisfied	Male	20	7.0	22	7.5	30	10.0	28	11.0	6	11.3	106	8.9
	Female	32	10.9	43	15.2	32	11.7	46	16.1	13	22.0	166	13.9
	Total	52	9.0	65	11.2	62	10.8	74	13.7	19	17.0	272	11.4
Satisfied	Male	73	25.5	92	31.2	94	31.3	102	40.0	26	49.1	387	32.5
	Female	101	34.4	103	36.4	105	38.5	111	38.9	27	45.8	447	37.4
	Total	174	30.0	195	33.7	199	34.7	213	39.4	53	47.3	834	35.0
Not determined	Male	67	23.4	87	29.5	91	30.3	70	27.5	16	30.2	331	27.8
	Female	52	17.7	79	27.9	74	27.1	64	22.5	8	13.6	277	23.2
	Total	119	20.5	166	28.7	165	28.8	134	24.8	24	21.4	608	25.5
Unsatisfied	Male	94	32.9	78	26.4	65	21.7	41	16.1	4	7.5	282	23.7
	Female	92	31.3	52	18.4	51	18.7	47	16.5	9	15.3	251	21.0
	Total	186	32.1	130	22.5	116	20.2	88	16.3	13	11.6	533	22.4
Very unsatisfied	Male	29	10.1	16	5.4	18	6.0	13	5.1	0	0.0	76	6.4
	Female	16	5.4	6	2.1	11	4.0	14	4.9	1	1.7	48	4.0
	Total	45	7.8	22	3.8	29	5.1	27	5.0	1	0.9	124	5.2

## VIII. Visual and Auditory Examinations

## VIII. Visual and Auditory Examinations

### 1) Visual system

#### 1. Refraction

Autorefraction was obtained with the NIDEK-ARK700A. Refractive errors, in spherical equivalent, were assessed.

#### 2. Visual acuity (5 m)

Distant visual acuity was measured for each eye with a Landolt C letter at 5m. Presenting visual acuity was measured with the participant's current distance correction; when distance correction was not used, the unaided distant visual acuity was measured. Subsequently, best-corrected visual acuity for each eye was determined after objective autorefraction and subjective refinement.

#### 3. Contrast sensitivity

Contrast sensitivity was measured at 1.5, 3, 6, 12, 18 cycles per degree with Vistech VCTS-6500.

#### 4. Intraocular pressure

Intraocular pressure was measured three times for each eye with a noncontact tomometer (NIDEK NT-3000) between 9 and 12 AM. The mean value of the three measurements was used for analysis.

#### 5. Retinal fundus camera

Fundus photographs were taken with Topcon fundus camera (TRC-NW5S) at 20 and 45 degree angles for each eye without pupil dilatation. Diabetic retinopathy, arteriosclerosis, and macular degeneration were assessed on the photograph at 45 degree angles. Vertical cup to disc ratio was measured on the photograph at 20 degree angles.

#### 6. Specular microscope

Corneal thickness was obtained with the Topcon SP-2000 specular microscope.



## 2) Auditory system

### 1. Pure-tone audiometry

Air conduction thresholds at 125,250,500,1000,2000,4000,8000Hz(dBHL)

Bone conduction thresholds at 250,500,1000,2000,4000Hz(dBHL)

Pure-tone audiometry (Audiometer RION AA-73A)

※ If no response occurs at the maximum output level of this audiometer, the threshold is treated as following.

	Air conduction		Bone conduction	
	Maximum output level	Input level	Maximum output level	Input level
125Hz	70	75	-	-
250Hz	85	90	55	60
500Hz	100	105	65	70
1000Hz	100	105	70	75
2000Hz	100	105	70	75
4000Hz	100	105	60	65
8000Hz	95	100	-	-

### 2. Impedance audiometry

#### (1) Single frequency tympanometry

Tympanometric peak pressure in the single frequency tympanogram at 226Hz(daPa)

Static compliance in the single frequency tympanogram at 226Hz(ml)

#### (2) Multifrequency tympanometry

Middle ear resonance frequency(Hz)

### 3. Distortion product otoacoustic emission (DPOAE)

Signal-to-noise differences of the DPOAEs in the DP-gram (= DP amplitude above the noise floor)  
(dB SPL)

1) Visual system

1. Refraction

Autorefracton was obtained with the NIDEK-ARK700A. Refractive errors, in spherical equivalent, were assessed.

Spherical Equivalent of Refractive Error - Right Eye (Diopters)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80 - yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	-1.64	1.55	284	-1.38	1.51	292	-0.67	1.34	292	-0.30	1.02	242	-0.70	0.96	50	-1.01	1.46	1160
Female	-1.63	1.56	293	-1.11	1.46	282	-0.46	1.49	271	-0.16	1.36	257	-0.82	1.55	52	-0.86	1.58	1155
Total	-1.64	1.56	577	-1.25	1.49	574	-0.57	1.41	563	-0.23	1.21	499	-0.76	1.29	102	-0.94	1.52	2315

Spherical Equivalent of Refractive Error - Left Eye (Diopters)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80 - yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	-1.64	1.49	286	-1.31	1.42	291	-0.61	1.21	292	-0.23	1.02	236	-0.54	0.98	43	-0.96	1.40	1148
Female	-1.58	1.52	294	-1.09	1.38	281	-0.47	1.45	263	-0.12	1.18	265	-0.67	1.04	51	-0.83	1.48	1154
Total	-1.61	1.50	580	-1.20	1.40	572	-0.54	1.33	555	-0.17	1.11	501	-0.61	1.01	94	-0.90	1.45	2302

## 2. Visual acuity: distant vision (5 m)

Distant visual acuity was measured for each eye with a Landolt C letter at 5m.  
 Presenting visual acuity was measured with the participant's current distance correction;  
 when distance correction was not used, the unaided distant visual acuity was measured.  
 Subsequently, best-corrected visual acuity for each eye was determined  
 after objective autorefracton and subjective refinement.

### Presenting Visual Acuity - Right Eye

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80 - yr		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
not recorded	Male	-	0.0	-	0.0	1	0.3	1	0.4	-	0.0	2	0.2
	Female	-	0.0	-	0.0	-	0.0	2	0.7	-	0.0	2	0.2
	Total	-	0.0	-	0.0	1	0.2	3	0.6	-	0.0	4	0.2
0.3 or worse	Male	2	0.7	6	2.0	8	2.7	14	5.5	4	7.5	34	2.9
	Female	2	0.7	2	0.7	11	4.0	26	9.1	10	16.9	51	4.3
	Total	4	0.7	8	1.4	19	3.3	40	7.4	14	12.5	85	3.6
0.3-0.6	Male	11	3.8	22	7.5	36	12.0	64	25.1	21	39.6	154	13.0
	Female	15	5.1	42	14.8	38	13.9	74	26.0	21	35.6	190	15.9
	Total	26	4.5	64	11.1	74	12.9	138	25.6	42	37.5	344	14.4
0.7 or better	Male	273	95.5	267	90.5	255	85.0	176	69.0	28	52.8	999	84.0
	Female	277	94.2	239	84.5	224	82.1	183	64.2	28	47.5	951	79.6
	Total	550	94.8	506	87.5	479	83.6	359	66.5	56	50.0	1950	81.8

### Presenting Visual Acuity - Left Eye

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80 - yr		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
not recorded	Male	-	0.0	2	0.7	-	0.0	-	0.0	1	1.9	3	0.3
	Female	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Total	-	0.0	2	0.3	-	0.0	-	0.0	1	0.9	3	0.1
0.3 or worse	Male	1	0.3	1	0.3	6	2.0	17	6.7	2	3.8	27	2.3
	Female	3	1.0	7	2.5	12	4.4	20	7.0	9	15.3	51	4.3
	Total	4	0.7	8	1.4	18	3.1	37	6.9	11	9.8	78	3.3
0.3-0.6	Male	15	5.2	23	7.8	35	11.7	71	27.8	22	41.5	166	14.0
	Female	11	3.7	32	11.3	37	13.6	88	30.9	20	33.9	188	15.7
	Total	26	4.5	55	9.5	72	12.6	159	29.4	42	37.5	354	14.9
0.7 or better	Male	270	94.4	269	91.2	259	86.3	167	65.5	28	52.8	993	83.5
	Female	280	95.2	244	86.2	224	82.1	177	62.1	30	50.8	955	80.0
	Total	550	94.8	513	88.8	483	84.3	344	63.7	58	51.8	1948	81.7

Best-corrected Visual Acuity - Right Eye

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80 - yr		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
not recorded	Male	-	0.0	-	0.0	1	0.3	1	0.4	-	0.0	2	0.2
	Female	-	0.0	-	0.0	-	0.0	2	0.7	-	0.0	2	0.2
	Total	-	0.0	-	0.0	1	0.2	3	0.6	-	0.0	4	0.2
0.3 or worse	Male	-	0.0	2	0.7	4	1.3	7	2.7	1	1.9	14	1.2
	Female	-	0.0	-	0.0	2	0.7	13	4.6	6	10.2	21	1.8
	Total	-	0.0	2	0.3	6	1.0	20	3.7	7	6.3	35	1.5
0.3-0.6	Male	4	1.4	5	1.7	17	5.7	38	14.9	14	26.4	78	6.6
	Female	2	0.7	7	2.5	16	5.9	49	17.2	15	25.4	89	7.5
	Total	6	1.0	12	2.1	33	5.8	87	16.1	29	25.9	167	7.0
0.7 or better	Male	282	98.6	288	97.6	278	92.7	209	82.0	38	71.7	1095	92.1
	Female	292	99.3	276	97.5	255	93.4	221	77.5	38	64.4	1082	90.6
	Total	574	99.0	564	97.6	533	93.0	430	79.6	76	67.9	2177	91.4

Best-corrected Visual Acuity - Left Eye

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80 - yr		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
not recorded	Male	-	0.0	2	0.7	-	0.0	-	0.0	1	1.9	3	0.3
	Female	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Total	-	0.0	2	0.3	-	0.0	-	0.0	1	0.9	3	0.1
0.3 or worse	Male	-	0.0	-	0.0	4	1.3	7	2.7	1	1.9	12	1.0
	Female	1	0.3	1	0.4	3	1.1	14	4.9	7	11.9	26	2.2
	Total	1	0.2	1	0.2	7	1.2	21	3.9	8	7.1	38	1.6
0.3-0.6	Male	-	0.0	3	1.0	13	4.3	37	14.5	14	26.4	67	5.6
	Female	2	0.7	1	0.4	17	6.2	40	14.0	14	23.7	74	6.2
	Total	2	0.3	4	0.7	30	5.2	77	14.3	28	25.0	141	5.9
0.7 or better	Male	286	100.0	290	98.3	283	94.3	211	82.7	37	69.8	1107	93.1
	Female	291	99.0	281	99.3	253	92.7	231	81.1	38	64.4	1094	91.6
	Total	577	99.5	571	98.8	536	93.5	442	81.9	75	67.0	2201	92.4

### 3. Contrast sensitivity

Contrast sensitivity was measured at 1.5, 3, 6, 12, 18 cycles per degree with Vistech VCTS-6500.

#### Contrast Sensitivity at 1.5 cycles/degree

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80 - yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	46.3	21.1	286	44.9	20.2	293	39.5	15.8	298	35.5	14.0	252	32.2	14.7	53	41.3	18.5	1182
Female	42.5	18.1	294	41.4	16.9	283	38.1	14.4	273	32.8	13.0	279	31.9	15.2	55	38.5	16.2	1184
Total	44.4	19.7	580	43.2	18.7	576	38.9	15.1	571	34.1	13.5	531	32.0	14.9	108	39.9	17.5	2366

#### Contrast Sensitivity at 3 cycles/degree

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80 - yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	109.1	45.3	286	100.6	45.0	293	92.8	45.9	298	69.5	38.9	252	58.5	37.7	53	92.2	46.5	1182
Female	104.0	42.9	294	104.9	45.8	283	88.6	45.4	273	64.1	35.3	279	56.1	34.8	55	89.0	45.8	1184
Total	106.5	44.1	580	102.7	45.4	576	90.8	45.7	571	66.6	37.1	531	57.3	36.1	108	90.6	46.1	2366

#### Contrast Sensitivity at 6 cycles/degree

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80 - yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	114.3	50.3	286	108.4	51.1	293	92.2	50.0	298	58.9	37.2	252	39.6	24.3	53	92.1	52.4	1182
Female	114.3	52.6	294	113.9	52.3	283	94.4	53.8	273	53.9	36.7	279	40.5	30.0	55	92.0	55.4	1184
Total	114.3	51.4	580	111.1	51.7	576	93.3	51.8	571	56.3	37.0	531	40.1	27.2	108	92.1	53.9	2366

#### Contrast Sensitivity at 12 cycles/degree

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80 - yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	64.2	35.6	286	57.8	35.9	293	49.8	36.2	298	23.8	25.1	252	17.4	19.6	53	48.3	36.9	1182
Female	66.7	38.5	294	61.7	38.9	283	49.8	38.2	273	23.6	27.2	279	13.4	13.6	55	49.0	39.7	1184
Total	65.4	37.1	580	59.7	37.4	576	49.8	37.1	571	23.7	26.2	531	15.3	16.9	108	48.6	38.3	2366

Contrast Sensitivity at 18 cycles/degree

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80 - yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	20.2	14.1	286	18.1	13.1	293	14.5	12.3	298	7.8	9.3	252	4.2	7.1	53	14.9	13.2	1182
Female	22.0	14.1	294	20.0	13.5	283	14.4	12.3	273	6.4	7.7	279	4.9	6.8	55	15.3	13.6	1184
Total	21.1	14.1	580	19.0	13.3	576	14.4	12.3	571	7.1	8.6	531	4.5	6.9	108	15.1	13.4	2366

#### 4. Intraocular pressure

Intraocular pressure was measured three times for each eye with a noncontact tomometer (NIDEK NT-3000) between 9 and 12 AM. The mean value of the three measurements was used for analysis.

##### Intraocular Pressure - Right Eye (mmHg)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80 - yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	12.85	2.54	285	12.73	2.65	295	12.51	2.79	299	11.87	2.52	254	12.02	3.21	53	12.49	2.68	1186
Female	12.39	2.61	294	12.05	2.50	283	12.26	2.45	273	12.00	2.81	284	10.99	3.00	59	12.12	2.63	1193
Total	12.62	2.59	579	12.40	2.60	578	12.39	2.64	572	11.94	2.67	538	11.48	3.13	112	12.30	2.66	2379

##### Intraocular Pressure - Left Eye (mmHg)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80 - yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	12.84	2.67	286	12.88	2.76	294	12.48	2.68	300	11.93	2.68	255	11.90	2.54	53	12.52	2.72	1188
Female	12.34	2.66	294	11.99	2.32	283	12.37	2.44	273	12.08	2.60	284	11.49	2.58	58	12.16	2.52	1192
Total	12.59	2.67	580	12.44	2.59	577	12.43	2.57	573	12.01	2.63	539	11.68	2.56	111	12.34	2.63	2380

5. Retinal fundus camera

Fundus photographs were taken with Topcon fundus camera (TRC-NW5S) at 20 and 45 degree angles for each eye without pupil dilatation.

Diabetic retinopathy, Arteriosclerosis, and macular degeneration were assessed on the photograph at 45 degree angles.

Vertical cup to disc ratio was measured on the photograph at 20 degree angles.

Cup-Disc Ratio of Optic Disc - Right Eye

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80 - yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.50	0.11	286	0.51	0.10	295	0.51	0.10	294	0.52	0.12	248	0.57	0.11	51	0.51	0.11	1174
Female	0.49	0.10	294	0.49	0.10	282	0.50	0.12	270	0.53	0.12	275	0.54	0.10	54	0.50	0.11	1175
Total	0.49	0.10	580	0.50	0.10	577	0.51	0.11	564	0.52	0.12	523	0.55	0.10	105	0.51	0.11	2349

Cup-Disc Ratio of Optic Disc - Left Eye

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80 - yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.49	0.10	286	0.50	0.10	292	0.50	0.11	294	0.51	0.11	249	0.54	0.10	51	0.50	0.11	1172
Female	0.47	0.11	294	0.48	0.10	281	0.50	0.12	270	0.52	0.11	271	0.53	0.11	55	0.49	0.11	1171
Total	0.48	0.10	580	0.49	0.10	573	0.50	0.12	564	0.52	0.11	520	0.53	0.10	106	0.50	0.11	2343



Diabetic Retinopathy - Right Eye

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80 - yr		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
not recorded	Male	-	0.0	-	0.0	3	1.0	5	2.0	-	0.0	8	0.7
	Female	-	0.0	-	0.0	1	0.4	3	1.1	1	1.7	5	0.4
	Total	-	0.0	-	0.0	4	0.7	8	1.5	1	0.9	13	0.5
nothing	Male	284	99.3	295	100.0	288	96.0	240	94.1	52	98.1	1159	97.5
	Female	294	100.0	281	99.3	267	97.8	273	95.8	53	89.8	1168	97.8
	Total	578	99.7	576	99.7	555	96.9	513	95.0	105	93.8	2327	97.7
simple	Male	-	0.0	-	0.0	2	0.7	1	0.4	-	0.0	3	0.3
	Female	-	0.0	-	0.0	1	0.4	-	0.0	-	0.0	1	0.1
	Total	-	0.0	-	0.0	3	0.5	1	0.2	-	0.0	4	0.2
preproliferative	Male	-	0.0	-	0.0	3	1.0	1	0.4	-	0.0	4	0.3
	Female	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Total	-	0.0	-	0.0	3	0.5	1	0.2	-	0.0	4	0.2
invisible	Male	2	0.7	-	0.0	4	1.3	8	3.1	1	1.9	15	1.3
	Female	-	0.0	2	0.7	4	1.5	9	3.2	5	8.5	20	1.7
	Total	2	0.3	2	0.3	8	1.4	17	3.1	6	5.4	35	1.5

Diabetic Retinopathy - Left Eye

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80 - yr		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
not recorded	Male	-	0.0	2	0.7	4	1.3	3	1.2	-	0.0	9	0.8
	Female	-	0.0	1	0.4	2	0.7	3	1.1	2	3.4	8	0.7
	Total	-	0.0	3	0.5	6	1.0	6	1.1	2	1.8	17	0.7
nothing	Male	285	99.7	290	98.3	284	94.7	236	92.5	48	90.6	1143	96.1
	Female	294	100.0	280	98.9	265	97.1	267	93.7	54	91.5	1160	97.2
	Total	579	99.8	570	98.6	549	95.8	503	93.1	102	91.1	2303	96.6
simple	Male	-	0.0	-	0.0	3	1.0	1	0.4	-	0.0	4	0.3
	Female	-	0.0	-	0.0	1	0.4	-	0.0	-	0.0	1	0.1
	Total	-	0.0	-	0.0	4	0.7	1	0.2	-	0.0	5	0.2
preproliferative	Male	-	0.0	-	0.0	3	1.0	1	0.4	-	0.0	4	0.3
	Female	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Total	-	0.0	-	0.0	3	0.5	1	0.2	-	0.0	4	0.2
invisible	Male	1	0.3	3	1.0	6	2.0	14	5.5	5	9.4	29	2.4
	Female	-	0.0	2	0.7	5	1.8	15	5.3	3	5.1	25	2.1
	Total	1	0.2	5	0.9	11	1.9	29	5.4	8	7.1	54	2.3

Arteriosclerosis (Keith-Wagener) - Right Eye

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80 - yr		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
not recorded	Male	-	0.0	-	0.0	3	1.0	5	2.0	-	0.0	8	0.7
	Female	-	0.0	-	0.0	1	0.4	3	1.1	1	1.7	5	0.4
	Total	-	0.0	-	0.0	4	0.7	8	1.5	1	0.9	13	0.5
nothing	Male	158	55.2	60	20.3	29	9.7	5	2.0	1	1.9	253	21.3
	Female	197	67.0	70	24.7	25	9.2	12	4.2	3	5.1	307	25.7
	Total	355	61.2	130	22.5	54	9.4	17	3.1	4	3.6	560	23.5
K-W I	Male	119	41.6	206	69.8	186	62.0	108	42.4	12	22.6	631	53.1
	Female	93	31.6	197	69.6	188	68.9	109	38.2	12	20.3	599	50.2
	Total	212	36.6	403	69.7	374	65.3	217	40.2	24	21.4	1230	51.6
K-W IIa	Male	8	2.8	29	9.8	78	26.0	132	51.8	39	73.6	286	24.1
	Female	4	1.4	15	5.3	56	20.5	151	53.0	39	66.1	265	22.2
	Total	12	2.1	44	7.6	134	23.4	283	52.4	78	69.6	551	23.1
invisible	Male	1	0.3	-	0.0	4	1.3	5	2.0	1	1.9	11	0.9
	Female	-	0.0	1	0.4	3	1.1	10	3.5	4	6.8	18	1.5
	Total	1	0.2	1	0.2	7	1.2	15	2.8	5	4.5	29	1.2

Arteriosclerosis (Keith-Wagener) - Left Eye

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80 - yr		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
not recorded	Male	-	0.0	2	0.7	4	1.3	3	1.2	-	0.0	9	0.8
	Female	-	0.0	1	0.4	2	0.7	2	0.7	2	3.4	7	0.6
	Total	-	0.0	3	0.5	6	1.0	5	0.9	2	1.8	16	0.7
nothing	Male	155	54.2	55	18.6	23	7.7	5	2.0	1	1.9	239	20.1
	Female	200	68.0	69	24.4	25	9.2	11	3.9	1	1.7	306	25.6
	Total	355	61.2	124	21.5	48	8.4	16	3.0	2	1.8	545	22.9
K-W I	Male	121	42.3	204	69.2	196	65.3	103	40.4	11	20.8	635	53.4
	Female	89	30.3	197	69.6	185	67.8	109	38.2	15	25.4	595	49.8
	Total	210	36.2	401	69.4	381	66.5	212	39.3	26	23.2	1230	51.6
K-W IIa	Male	9	3.1	32	10.8	71	23.7	134	52.5	36	67.9	282	23.7
	Female	5	1.7	15	5.3	56	20.5	150	52.6	38	64.4	264	22.1
	Total	14	2.4	47	8.1	127	22.2	284	52.6	74	66.1	546	22.9
invisible	Male	1	0.3	2	0.7	6	2.0	10	3.9	5	9.4	24	2.0
	Female	-	0.0	1	0.4	5	1.8	13	4.6	3	5.1	22	1.8
	Total	1	0.2	3	0.5	11	1.9	23	4.3	8	7.1	46	1.9

Macular Degeneration - Right Eye

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80 - yr		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
not recorded	Male	-	0.0	-	0.0	3	1.0	5	2.0	-	0.0	8	0.7
	Female	-	0.0	-	0.0	1	0.4	3	1.1	1	1.7	5	0.4
	Total	-	0.0	-	0.0	4	0.7	8	1.5	1	0.9	13	0.5
nothing	Male	269	94.1	266	90.2	236	78.7	182	71.4	36	67.9	989	83.2
	Female	287	97.6	268	94.7	225	82.4	207	72.6	31	52.5	1018	85.3
	Total	556	95.9	534	92.4	461	80.5	389	72.0	67	59.8	2007	84.2
drusen	Male	12	4.2	18	6.1	28	9.3	20	7.8	5	9.4	83	7.0
	Female	4	1.4	6	2.1	15	5.5	31	10.9	7	11.9	63	5.3
	Total	16	2.8	24	4.2	43	7.5	51	9.4	12	10.7	146	6.1
atrophic change	Male	-	0.0	2	0.7	3	1.0	4	1.6	2	3.8	11	0.9
	Female	-	0.0	-	0.0	2	0.7	6	2.1	4	6.8	12	1.0
	Total	-	0.0	2	0.3	5	0.9	10	1.9	6	5.4	23	1.0
exudative change	Male	-	0.0	-	0.0	2	0.7	2	0.8	-	0.0	4	0.3
	Female	-	0.0	1	0.4	-	0.0	-	0.0	-	0.0	1	0.1
	Total	-	0.0	1	0.2	2	0.3	2	0.4	-	0.0	5	0.2
epiretinal membrane	Male	1	0.3	1	0.3	6	2.0	5	2.0	-	0.0	13	1.1
	Female	-	0.0	1	0.4	5	1.8	5	1.8	1	1.7	12	1.0
	Total	1	0.2	2	0.3	11	1.9	10	1.9	1	0.9	25	1.0
invisible	Male	4	1.4	8	2.7	22	7.3	37	14.5	10	18.9	81	6.8
	Female	3	1.0	7	2.5	25	9.2	33	11.6	15	25.4	83	7.0
	Total	7	1.2	15	2.6	47	8.2	70	13.0	25	22.3	164	6.9

Macular Degeneration - Left Eye

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80 - yr		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
not recorded	Male	-	0.0	2	0.7	4	1.3	3	1.2	-	0.0	9	0.8
	Female	-	0.0	1	0.4	2	0.7	2	0.7	2	3.4	7	0.6
	Total	-	0.0	3	0.5	6	1.0	5	0.9	2	1.8	16	0.7
nothing	Male	276	96.5	266	90.2	245	81.7	189	74.1	34	64.2	1010	84.9
	Female	286	97.3	254	89.8	228	83.5	201	70.5	35	59.3	1004	84.1
	Total	562	96.9	520	90.0	473	82.5	390	72.2	69	61.6	2014	84.5
drusen	Male	4	1.4	12	4.1	21	7.0	16	6.3	3	5.7	56	4.7
	Female	3	1.0	5	1.8	14	5.1	26	9.1	5	8.5	53	4.4
	Total	7	1.2	17	2.9	35	6.1	42	7.8	8	7.1	109	4.6
atrophic change	Male	1	0.3	-	0.0	1	0.3	2	0.8	1	1.9	5	0.4
	Female	-	0.0	-	0.0	1	0.4	3	1.1	1	1.7	5	0.4
	Total	1	0.2	-	0.0	2	0.3	5	0.9	2	1.8	10	0.4
exudative change	Male	-	0.0	-	0.0	-	0.0	3	1.2	-	0.0	3	0.3
	Female	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
	Total	-	0.0	-	0.0	-	0.0	3	0.6	-	0.0	3	0.1
epiretinal membrane	Male	-	0.0	2	0.7	2	0.7	2	0.8	1	1.9	7	0.6
	Female	-	0.0	1	0.4	1	0.4	6	2.1	-	0.0	8	0.7
	Total	-	0.0	3	0.5	3	0.5	8	1.5	1	0.9	15	0.6
invisible	Male	5	1.7	13	4.4	27	9.0	40	15.7	14	26.4	99	8.3
	Female	5	1.7	22	7.8	27	9.9	47	16.5	16	27.1	117	9.8
	Total	10	1.7	35	6.1	54	9.4	87	16.1	30	26.8	216	9.1