

Sex-specific association of body mass index and fatty liver index with prevalence of renal hyperfiltration: a cross sectional study using Japanese health check-up data

Atsushi Kitazawa^{1,2*} and Yoshiharu Fukuda¹

Abstract

Background The relationship between obesity and nonalcoholic fatty liver disease and renal hyperfiltration is controversial. This study aimed to assess the correlations of body mass index and fatty liver index, respectively, with renal hyperfiltration in non-diabetic subjects, considering age, sex, and body surface area.

Methods This cross-sectional study assessed the Japanese health check-up data (FY2018) of 62,379 non-diabetic individuals from a health insurance database. Renal hyperfiltration is the \geq 95th percentile of estimated glomerular filtration rate (derived by Chronic Kidney Disease Epidemiology Collaboration formula) by gender and age in healthy subjects. After adjusting for potential confounders, multiple logistic regression models were applied to evaluate the correlation of renal hyperfiltration with body mass index categories and fatty liver index (10 equal parts).

Results A negative and positive correlation, respectively, were noted when the body mass index was < 21 and ≥ 30 in women; however, a positive correlation was noted for BMI < 18.5 and ≥ 30 in men. Renal hyperfiltration prevalence increased when fatty liver index increased for both sexes; the cutoff value for fatty liver index was 14.7 for women and 30.4 for men.

Conclusions Body mass index and renal hyperfiltration correlated linearly in women; however, in men, the correlation was U-shaped; therefore, differing by sex. However, fatty liver index correlated linearly with renal hyperfiltration in both sexes. Non-alcoholic fatty liver disease might be associated with renal hyperfiltration; Fatty liver index is a simple marker that can be obtained from health check-ups. Since a high fatty liver index correlated with renal hyperfiltration, it may be beneficial to monitor the renal function in such a population.

Keywords Renal hyperfiltration, BMI, FLI, NAFLD, Obesity, BSA, CKD-EPI

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Background Renal hyperfi

Renal hyperfiltration (RHF) is a well-known phenomenon that occurs early in the development of nephropathy in patients with diabetes [1]. RHF is thought to be followed by the development of proteinuria and progressive decline in renal function [2]. Recently, it has been reported that RHF correlates with prediabetes [3–6], making it an early marker for the onset of diabetes. RHF



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is associated with renal prognosis and all-cause mortality in patients with diabetes [7].

The following points are important when investigating RHF: 1) the definition of RHF; 2) the method of measurement of glomerular filtration rate (GFR); and 3) whether GFR should be adjusted for body surface area (BSA).

1) There is no universal definition of RHF. Some studies have defined RHF as estimated glomerular filtration rate (eGFR) \geq 120 ml/min [8], while others have used eGFR to define RHF as the 95th percentile or + 2 SD in healthy subjects. According to a systematic review by Cachat et al., 30% of the studies did not justify the choice of the threshold values [9]. From a methodological point of view, they argued that an age-and gender-matched control group should be used to define the RHF threshold.

2) The gold standard for GFR measurement is the inulin clearance test; however, it is not performed in epidemiological studies because it is a complex and time-consuming test. In clinical practice, eGFR, which is estimated from serum creatinine (Cr) values, is used as a measure of GFR. Different formulas are used to determine eGFR across regions and countries; notably, the serum Cr levels vary according to sex, age, race, and other factors. The Modification of Diet in Renal Disease Study (MDRD)-eGFR and Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI)-eGFR formulas are the most commonly used formulas for estimating the GFR. In Japan, the MDRD-eGFR formula has been modified for use in the Japanese population and the modified formula is widely used [10]. For men, eGFR (ml/min/1.73 m^2) = (194 × Cr -1.094 × Age-0.287), and for women, it was further multiplied by 0.739. However, the MDRDeGFR equation was developed mainly for chronic kidney disease (CKD) patients; therefore, when it was applied to patients with normal renal function (eGFR > 60), the GFR was estimated to be low in several cases [11]. The CKD-EPI equation was developed to improve on this point by using different equations for estimating the eGFR according to the serum Cr levels (Cr 0.9 for men and 0.7 for women) [12]. The coefficient in the CKD-EPI formula modified for the Japanese population was 0.813 [13]. The CKD-EPI equation has been noted to be a superior surrogate marker of GFR in patients with hyperfiltration [14]; additionally, the majority of studies on RHF based on eGFR used the CKD-EPI formula. However, studies on Japanese subjects are limited [4-6], and all of the studies used the MDRD-eGFR formula.

3) There is a clinicopathological syndrome associated with obesity called obesity-related glomerulopathy (ORG). The histological feature is glomerulomegaly, which may be due to increased metabolic demand, and functionally, there is an increase in the total glomerular filtration rate [15]. ORG has also been postulated to be a kidney lesion caused by metabolic syndrome. However, studies evaluating the relationship between obesity and RHF are controversial because the results vary depending on whether the GFR is indexed with BSA. Most previous RHF studies that evaluated GFR have found a positive relationship between the BMI and RHF that disappears upon adjustment of GFR to BSA [16–18]. The indexed GFR with BSA in obese individuals may underestimate the GFR. There are few large cohort studies of RHF using estimated GFR that have evaluated its correlation with BMI.

In addition to RHF, non-alcoholic fatty liver disease (NAFLD) is an independent risk factor for cardiovascular diseases. Recently, apart from the general cardiorenal risk factors, such as obesity, hypertension, diabetes, and hyperlipidemia, a strong association between the presence and severity of NAFLD and the prevalence and incidence of CKD has been clarified [19]. It has been suggested that insulin resistance may be a common pathogenic mechanism in NAFLD and CKD [20]. However, only one study has indicated an association between NAFLD (diagnosed by ultrasound or MRI) and RHF [21]. In that study, eGFR was converted to absolute value (mL/min) using the following equation: (eGFR mL/ min/1.73 m² * BSA)/1.73 m². BSA was calculated using the DuBois and DuBois formula (BSA = 0.007184 \times Weig $ht^{0.425} \times Height^{0.725}$) [22]. Patients with NAFLD presented higher levels of eGFR and a significantly increased prevalence of hyperfiltration (73.2%) compared to the patients without NAFLD. Moreover, NAFLD and increased weight were associated with an increased probability of hyperfiltration.

The diagnosis of NAFLD is usually made by ultrasonography; however, as a simpler marker, the fatty liver index (FLI), which can be calculated from the BMI, waist circumference (WC), triglyceride (TG), and gamma-glutamyl transferase (GGT) was reported by Bedgni et al. [23], and validation studies have been carried out in each region since it was first reported. In addition, there have been several studies showing that FLI is not only a marker for NAFLD, but also a predictive marker for diabetes and CKD. However, the relationship between FLI and RHF has so far been reported in only one small cohort study in Finnish men [24]. In that study, no correlation was noted between the FLI and RHF; both were independently associated with all-cause and cardiovascular mortality.

The aim of the present study was to assess the correlations of BMI and FLI with RHF in non-diabetic subjects, taking into account the age, sex, and BSA. For the purpose of this study, RHF was defined as the 95th percentile or higher of CKD-EPI eGFR by sex and age in healthy subjects at health check-ups. In addition, the analysis was also adjusted for BSA.

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Methods

Study design and data source

The present study was a cross-sectional study performed using the Japanese health check-up data pertaining to FY2018. The data were obtained from a health insurance association and comprised annual health check-up data collected from all prefectures in Japan other than Tokyo.

Study subjects

The subjects were those aged 40-59 years who underwent a specific health check-up between April 2018 and March 2019. The eligible subjects for this study were those who (1) had all relevant data related to Cr, HbA1c (based on National Glycohemoglobin Standardization Program units), fasting plasma glucose (FPG), highdensity lipoprotein cholesterol (HDL-c), low-density lipoprotein cholesterol (LDL-c), TG, GGT, systolic blood pressure (SBP), diastolic blood pressure (DBP), weight, height, and WC; (2) had no cardiovascular disease, chronic kidney disease, or stroke according to the questionnaire of the health check-up at FY2018; (3) did not have diabetes (HbA1c > 6.5% or FPG > 126 mg/dL or use of antidiabetics) in FY2018; and (4) had no outlier data for Cr, HbA1c, FPG, LDL, HDL, TG, GGT, weight, height, WC, SBP, or DBP at FY2018. The subjects who met all eligibility criteria are shown in Fig. 1.

Definitions of renal hyperfiltration and hypofiltration

The serum Cr levels were measured using enzymatic methods. The GFR was estimated from serum Cr values

using the CKD-EPI formula [12] and adjusted using the Japanese coefficient, 0.813 [13]. The value of eGFR derived using this formula was indexed by BSA using the DuBois and DuBois formula [22]. To define hyperfiltration and hypofiltration, we focused on "healthy subjects" who met the following criteria: (1) No medication for hypertension, hyperlipidemia, or diabetes mellitus; (2) FPG < 100 mg/dL, HbA1c < 5.7%, SBP < 120 mmHg, DBP < 80 mmHg, LDL < 140 mg/dl, HDL \ge 40 mg/dl, and TG < 150 mg/dl; and (3) a negative urine protein test. The "healthy subjects" were stratified into 8 groups according to sex and age (40-44, 45-49, 50-54, and 55-59 years), and hypofiltration and hyperfiltration were defined as values below the 5th percentile and above the 95th percentile of eGFR in each group, respectively. In addition, using the reference values, all subjects were divided into hypofiltration, normal filtration, and hyperfiltration groups based on their individual eGFR values. Subsequently, the subjects of the RHF were then compared with the subjects of normal filtration. A graph of the reference values for renal hyperfiltration and hypofiltration in women and men is shown in Fig. 2.

Variables

For background variables, age, BMI, FLI, FPG, SBP, DBP, HDL-c, LDL-c, TG, and self-administered questionnaire (antihypertensive medication use, lipid-lowering medication use, current smoking, daily drinking, exercising for 30 min or more per day, skipping breakfast, midnight eating, weight gain of 10 kg or more since 20 years



Fig. 1 Flow of eligible subjects



Fig. 2 Distribution of eGFR (CKD-EPI) in "healthy subjects". The 95th and 5th percentiles are shown in 5-year age groups. Hyperfiltration was defined as an eGFR over the age-and sex-specific 95th percentile and hypofiltration was defined as an eGFR below the 5th percentile

of age, and adequate sleeping) at FY2018 were extracted from the database. The BMI was calculated as the weight divided by height in square meters, and the FLI score was calculated as follows: 30 min or more per day, skipping breakfast, midnight eating, weight gain of 10 kg or more since 20 years of age, and adequate sleeping for Model-3.

We also performed a sensitivity analysis using the

$$FLI = \left\{ \frac{e^{0.953 \times \log(TG) + 0.139 \times BMI + 0.718 \times \log(\gamma - GTP) + 0.053 \times WC - 15.745}}{1 + (e^{0.953 \times \log(TG) + 0.139 \times BMI + 0.718 \times \log(\gamma - GTP) + 0.053 \times WC - 15.745})} \right\} \times 100$$

Statistical analysis

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For descriptive statistics of the baseline characteristics, the median (IQR) was calculated for continuous variables, and frequency and percentage were calculated for categorical variables for the normal and RHF groups.

Univariate and multivariate analyses were performed by sex to assess the correlation between background and RHF. Multivariate adjusted logistic regression models were subsequently applied to evaluate the correlation of RHF with BMI categories (<18.5, $18.5 \ge to < 20$, $20 \ge$ to < 23, $23 \ge$ to < 25, $25 \ge$ to < 30, and \ge 30) and FLI (10) equal parts), respectively. Multivariate analyses with three models were performed to calculate the odds ratios (ORs) and 95% confidence intervals (CIs). The models were adjusted for age (categorised into four age groups: 40-44, 45-49, 50-54 and 55-59 years) for Model-1; Model-1 plus FPG level (normal; FPG < 100 mg/dl, prediabetes 1; FPG 100-109 mg/dl, prediabetes 2; FPG 110-125 mg/ dl), blood pressure level (Normal; SBP < 120 mmHg and DBP < 80 mmHg, prehypertension; SBP 120–139 mmHg or DBP 80–89 mmHg, hypertension; $SBP \ge 140$ mmHg or $DBP \ge 90 \text{ mmHg}$), HDL, antihypertensive medication use, lipid-lowering medication use, current smoking, and daily drinking for Model-2; Model-2 plus, exercising for Modification of Diet in Renal Disease equation (adapted for Japanese individuals by the Japanese Society of Nephrology) [25], as follows:

Estimated GFR (eGFR) (mL/min/1.73 m²) = $194 \times$ serum Cr $^{-1.094}$ (mg/dL) x age $^{-0.287}$ (years) (× 0.739 if female).

In addition, a stratified analysis was performed, dividing the subjects into two groups: normoglycemia and prediabetes. The definition of prediabetes is HbA1c \geq 5.7% or FPG \geq 100 mg/dl, according to American Diabetes Association (ADA) criteria [26].

To evaluate the fitness of the model, we performed a lack-of-fit test [27].

All the tests were two-tailed, and the significance level was set to 0.05. For statistical analysis, JMP[®] version 15.0 (SAS Institute Inc., Cary, NC, USA) was used. The results are reported in accordance with the recommendations of the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist [28].

Results

Study population

Of the 215,063 beneficiaries, data of 62,379 eligible subjects were extracted from the database.

Baseline characteristics

Descriptive analyses for the baseline characteristics of the eligible RHF and normal filtration subjects by BMI class (lower 18.5, 18.5 - < 21, 21 - < 23, 23 - < 25, 25 - < 30, and 30 or higher) are shown in Table 1 for females and males, respectively. Every variable differed significantly among the groups.

Descriptive analyses for the baseline characteristics of the eligible RHF and normal filtration subjects by 10

equal parts of FLI are shown in Table 2 for females and males, respectively.

Association of RHF and BMI or FLI level

The results of the multivariate adjusted logistic regression analysis for the three models are presented in Table 3. In women, negative correlation was noted for BMI < 21, and positive correlation was noted for BMI \ge 30 for RHF in all the three models.

Table 1 Characteristics of eligible subjects, excluding hypofiltration by body mass index in females and males, respectively

	BMI	1; < 18.5	BMI	2; 18.5-21	BMI	3; 21-23	BMI	4; 23-25	BMI	5; 25-30	BM	I 6; ≥ 30
Female (n)		2655		7108		5060	:	3275		3115		836
Renal hyperfiltration	142	5.4%	353	5.0%	282	5.6%	168	5.1%	155	5.0%	54	6.5%
Body mass index, kg/m ²	17.7	(17.1-18.2)	19.8	(19.2-20.4)	21.9	(21.4-22.4)	23.9	(23.4-24.4)	26.6	(25.6-27.8)	32.2	(30.9-34.3)
Age, year	48	(44-53)	48	(44-52)	49	(45-53)	49	(45-53)	49	(45-53)	48	(44-52)
Body surface area, m ²	1.42	(1.37-1.47)	1.49	(1.44-1.54)	1.55	(1.50-1.60)	1.60	(1.54-1.66)	1.68	(1.61-1.74)	1.82	(1.74-1.90)
Height, cm	159.0	(155.5-162.5)	158.7	(155.2-162.1)	158.0	(154.7-161.4)	157.8	(154.3-161.2)	157.6	(154.0-161.0)	156.9	(153.4-160.8)
Weight, kg	44.4	(42.0-46.8)	49.9	(47.4-52.4)	54.7	(52.3-57.3)	59.5	(56.7-62.5)	66.4	(62.8-70.4)	80.3	(75.4-86.5)
Waist circumference, cm	67.5	(64.5-70.2)	73.0	(70.0-76.0)	78.2	(75.0-81.8)	83.0	(80.0-86.2)	89.5	(85.9-93.7)	101.0	(96.5-107.0)
Fatty liver index	2.1	(1.5-3.2)	3.9	(2.6-6.1)	7.8	(5.0-12.5)	14.5	(9.4-23.0)	32.7	(21.2-49.4)	74.7	(60.0-85.3)
Creatinine, mg/dl	0.6	(0.6-0.7)	0.6	(0.6-0.7)	0.6	(0.6-0.7)	0.6	(0.6-0.7)	0.6	(0.6-0.7)	0.6	(0.6-0.7)
eGFR, ml/min/1.73m ²	85.9	(81.4-89.8)	86.0	(81.7-89.8)	85.6	(81.1-89.4)	85.3	(80.9-89.3)	85.3	(80.9-89.3)	86.2	(81.7-89.5)
Fasting plasma glucose, mg/dl	88	(84-93)	89	(85-94)	91	(86-96)	92	(87-98)	95	(89-101)	97	(92-104)
Hemoglobin A1c, %	5.4	(5.2-5.6)	5.4	(5.2-5.6)	5.4	(5.2-5.6)	5.4	(5.3-5.7)	5.5	(5.3-5.7)	5.6	(5.4-5.9)
Low-density lipoprotein cholesterol, mg/dl	107	(90-127)	112	(94-132)	119	(101-139)	124	(105-144)	129	(109-151)	134	(115-154)
High-density lipoprotein cholesterol, mg/dl	79	(70-89)	74	(65-85)	70	(61-81)	66	(58-76)	61	(53-71)	56	(49-64)
Triglyceride, mg/dl	56	(44-70)	60	(47-78)	67	(51-90)	75	(57-103)	89	(65-125)	104	(78-139)
Systolic blood pressure, mmHg	105	(97-116)	108	(99-118)	111	(102-123)	115	(105-126)	121	(111-131)	128	(119-138)
Diastolic blood pressure, mmHg	65	(59-73)	66	(60-74)	69	(62-77)	71	(64-79)	75	(67-83)	80	(72-87)
Medication use												
Lipid lowering drug (n)	53	2.0%	203	2.9%	262	5.2%	218	6.7%	297	9.5%	116	13.9%
Antihypertension drug (n)	58	2.2%	227	3.2%	241	4.8%	227	6.9%	406	13.0%	177	21.2%
Lifestyle		2.01/		0.001		a. 00/		2.497		a	40	4.007
Current smoking (n)	88	3.3%	207	2.9%	144	2.9%	110	3.4%	111	3.6%	40	4.8%
Daily drinking (f)	293	11.1%	/28	2.09/	201	11.2%	320	10.0%	292	9.5%	52	0.3%
Tokg or more weight gain since age 20 (n)	8 277	0.3%	208	3.0%	/80	10.0%	1323	41.3%	2259	/4.0%	/40	90.0%
Midnight gating (n)	577 620	14.3%	1010	26.59/	1452	13.7%	434	13.3%	1028	24.09/	206	27.29/
Skinning heakfast (n)	240	23.0%	601	10.1%	570	29.0%	353	29.8%	1028	14.5%	141	37.3%
Adacuate classing (n)	1401	54 294	3044	56.0%	2783	56 3%	1748	54.6%	1540	50.9%	141	47.2%
Propulate Steeping (III)	1701			50.970		20.270		177 M / B		20.270		H1.270
	BMI	1: < 18.5	BMI	2: 18.5-21	BMI	3: 21-23	BMI	4: 23-25	BMI	5: 25-30	BM	I 6: > 30
Male (n)	BMI	1; < 18.5 930	BMI	2; 18.5-21 5799	BMI	3; 21-23 9828	BMI	4; 23-25	BMI	5; 25-30 8947	BM	I 6; ≥ 30 1513
Male (n)	<u>BMI</u> 91	1; < 18.5 930 9.8%	BMI 334	2; 18.5-21 5799 5.8%	BM 489	3; 21-23 9828 5.0%	BMI 412	4; 23-25 9295 4.4%	BMI 375	5; 25-30 8947 4.2%	BM 85	I 6; ≥ 30 1513 5.6%
Male (n) Renal hyperfiltration Body mass index, kg/m ²	BMI 91 17.9	1; < 18.5 930 9.8% (17.3-18.2)	BMI 334 20.1	2; 18.5-21 5799 5.8% (19.5-20.6)	489 22.1	3; 21-23 9828 5.0% (21.6-22.5)	412 23.9	4; 23-25 9295 4.4% (23.5-24.4)	375 26.5	5; 25-30 8947 4.2% (25.7-27.7)	85 31.7	1 6; ≥ 30 1513 5.6% (30.8-33.5)
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year	BMI 91 17.9 50	1; < 18.5 930 9.8% (17.3-18.2) (45-54)	BMI 334 20.1 50	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54)	489 22.1 50	3; 21-23 9828 5.0% (21.6-22.5) (46-55)	412 23.9 50	4; 23-25 9295 4.4% (23.5-24.4) (46-55)	375 26.5 50	5; 25-30 8947 4.2% (25.7-27.7) (46-54)	85 31.7 49	1 6; ≥ 30 1513 5.6% (30.8-33.5) (45-53)
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ²	91 17.9 50 1.60	1; < 18.5 930 9.8% (17.3-18.2) (45-54) (1.55-1.67)	BMI 334 20.1 50 1.69	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75)	BMI 489 22.1 50 1.76	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.69-1.82)	412 23.9 50 1.81	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88)	375 26.5 50 1.90	5; 25-30 8947 4.2% (25.7-27.7) (46-54) (1.83-1.98)	85 31.7 49 2.05	1 6; ≥ 30 1513 5.6% (30.8-33.5) (45-53) (1.98-2.15)
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, cm	91 17.9 50 1.60 171.6	1; < 18.5 930 9.8% (17.3-18.2) (45-54) (1.55-1.67) (168.1-175.4)	BMI 334 20.1 50 1.69 171.4	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75) (167.6-175.3)	BMI 489 22.1 50 1.76 171.0	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.69-1.82) (167.3-174.9)	412 23.9 50 1.81 170.7	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6)	375 26.5 50 1.90 170.7	5; 25-30 8947 4.2% (25.7-27.7) (46-54) (1.83-1.98) (166.9-174.7)	85 31.7 49 2.05 170.6	I 6; ≥ 30 1513 5.6% (30.8-33.5) (45-53) (1.98-2.15) (166.8-174.9)
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, cm Weight, kg	91 17.9 50 1.60 171.6 52.0	1; < 18.5 930 9.8% (17.3-18.2) (45-54) (1.55-1.67) (168.1-175.4) (49.4-54.9)	BMI 334 20.1 50 1.69 171.4 58.9	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8)	889 22.1 50 1.76 171.0 64.5	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.69-1.82) (167.3-174.9) (61.5-67.6)	412 23.9 50 1.81 170.7 69.8	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2)	375 26.5 50 1.90 170.7 77.8	5; 25-30 8947 4.2% (25.7-27.7) (46-54) (1.83-1.98) (166.9-174.7) (73.6-82.4)	85 31.7 49 2.05 170.6 93.4	I 6; \geq 30 1513 5.6% (30.8-33.5) (45-53) (1.98-2.15) (166.8-174.9) (88.2-100.2)
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, cm Weight, kg Waist circumfrence, cm	BMI 91 17.9 50 1.60 171.6 52.0 68.8	1; < 18.5	BMI 334 20.1 50 1.69 171.4 58.9 74.8	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7)	BM1 489 22.1 50 1.76 171.0 64.5 80.0	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.69-1.82) (167.3-174.9) (61.5-67.6) (77.3-82.9)	412 23.9 50 1.81 170.7 69.8 84.2	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.8-87.0)	375 26.5 50 1.90 170.7 77.8 91.0	5; 25-30 8947 4.2% (25.7-27.7) (46-54) (1.83-1.98) (166.9-174.7) (73.6-82.4) (87.5-94.8)	85 31.7 49 2.05 170.6 93.4 103.8	1 6; ≥ 30 1513 5.6% (30.8-33.5) (45-53) (1.98-2.15) (166.8-174.9) (88.2-100.2) (100.0-108.3)
Male (n) Renal hyperfiltration Body mass index, kg/m² Age, year Body surface area, m² Height, cm Weight, kg Waist circumference, cm Farty liver index	BMI 91 17.9 50 1.60 171.6 52.0 68.8 3.4	1; < 18.5	BMI 334 20.1 50 1.69 171.4 58.9 74.8 7.2	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (163.61.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2)	BM1 489 22.1 50 1.76 171.0 64.5 80.0 15.0	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.69-1.82) (61.5-67.6) (77.3-82.9) (9.5-24.6)	412 23.9 50 1.81 170.7 69.8 84.2 27.2	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.8-87.0) (17.7-40.9)	375 26.5 50 1.90 170.7 77.8 91.0 52.1	5; 25-30 8947 4.2% (25.7-27.7) (46-54) (1.83-1.98) (166.9-174.7) (73.6-82.4) (87.5-94.8) (36.9-67.5)	85 31.7 49 2.05 170.6 93.4 103.8 85.5	$16; \ge 30$ 1513 5.6% (30.8-33.5) (45-53) (1.98-2.15) (166.8-174.9) (88.2-100.2) (100.0-108.3) (76.4-92.5)
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, cm Weight, kg Wast circumference, cm Fatty liver index Creatinie, mg/dl	BMI 91 17.9 50 1.60 171.6 52.0 68.8 3.4 0.8	1; < 18.5	BMI 334 20.1 50 1.69 171.4 58.9 74.8 7.2 0.9	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2) (0.79-0.93)	BMI 489 22.1 50 1.76 171.0 64.5 80.0 15.0 0.9	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.69-1.82) (167.3-174.9) (61.5-67.6) (77.3-82.9) (9.5-24.6) (0.80-0.94)	412 23.9 50 1.81 170.7 69.8 84.2 27.2 0.9	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.8-87.0) (17.7-40.9) (0.81-0.95)	375 26.5 50 1.90 170.7 77.8 91.0 52.1 0.9	5; 25-30 8947 4.2% (25.7-27.7) (46-54) (1.83-1.98) (166.9-174.7) (73.6-82.4) (87.5-94.8) (36.9-67.5) (0.81-0.96)	85 31.7 49 2.05 170.6 93.4 103.8 85.5 0.9	$16; \ge 30$ 1513 5.6% (30.8-33.5) (45-53) (1.98-2.15) (166.8-174.9) (88.2-100.2) (100.0-108.3) (76.492.5) (0.80-0.96)
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, cm Weight, kg Waist circumference, cm Fatty liver index Creatinine, mg/dl GFR, ml/min/1.73m ²	91 17.9 50 1.60 171.6 52.0 68.8 3.4 0.8 83.4	1; < 18.5 930 9.8% (17.3-18.2) (45-54) (1.55-1.67) (168.1-175.4) (49.4-54.9) (66.0-71.2) (2.2-5.2) (0.77-0.91) (79.0-86.8)	BMI 334 20.1 50 1.69 171.4 58.9 74.8 7.2 0.9 81.9	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2) (0.79-0.93) (77.0-86.2)	BMI 489 22.1 50 1.76 171.0 64.5 80.0 15.0 0.9 81.4	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.69-1.82) (167.3-174.9) (61.5-67.6) (77.3-82.9) (9.5-24.6) (0.80-0.94) (86.2-85.7)	412 23.9 50 1.81 170.7 69.8 84.2 27.2 0.9 80.7	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.8-87.0) (17.7-40.9) (0.81-0.95) (75.0-85.1)	BM1 375 26.5 50 1.90 170.7 77.8 91.0 52.1 0.9 80.3	5; 25-30 8947 4.2% (25.7-27.7) (46-54) (1.83-1.98) (166-9-174.7) (73.6-82.4) (87.5-94.8) (36.9-67.5) (0.81-0.96) (74.6-84.8)	85 31.7 49 2.05 170.6 93.4 103.8 85.5 0.9 81.4	$\begin{array}{c} 1.6 \succeq 2.30 \\ \hline 1513 \\ \hline \mathbf{5.6\%} \\ (30.83.5) \\ (45-53) \\ (1.98.2.15) \\ (166.8-174.9) \\ (88.2-100.2) \\ (100.0-108.3) \\ (76.4-92.5) \\ (0.80-0.96) \\ (75.2-86.0) \end{array}$
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, cm Weight, kg Waist circumference, cm Fatty liver index Creatinine, mg/dl cGFR, ml/min/1.73m ² Fasting plasma glucose, mg/dl	91 17.9 50 17.6 52.0 68.8 3.4 0.8 83.4 93	1; < 18.5	BMI 334 20.1 50 1.69 171.4 58.9 74.8 7.2 0.9 81.9 81.9 94	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2) (0.79-0.93) (77.0-86.2) (89-99)	489 22.1 50 1.76 171.0 64.5 80.0 15.0 0.9 81.4 95	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.69-1.82) (61.5-67.6) (77.3-82.9) (9.5-24.6) (0.80-0.94) (86.2-85.7) (90-101)	412 23.9 50 1.81 170.7 69.8 84.2 27.2 0.9 80.7 96	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.8-87.0) (17.740.9) (0.81-0.95) (75.0-85.1) (91-102)	BMI 375 26.5 50 1.90 170.7 77.8 91.0 52.1 0.9 80.3 98	5; 25-30 8947 4.2% (25.7-27.7) (46-54) (1.83-1.98) (166.9-174.7) (73.6-82.4) (87.5-94.8) (36.9-67.5) (0.81-0.96) (74.6-84.8) (92-104)	BM 85 31.7 49 2.05 170.6 93.4 103.8 85.5 0.9 81.4 101	$\begin{array}{c} 1 \ 6; \geq 30 \\ \hline 1513 \\ \hline 5.6\% \\ (30.8-33.5) \\ (45-53) \\ (1.98-2.15) \\ (166.8-174.9) \\ (88.2-100.2) \\ (100.0-108.3) \\ (76.4-92.5) \\ (0.80-0.96) \\ (75.2-86.0) \\ (94-108) \end{array}$
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, cm Weight, kg Waist circumference, cm Fatty liver index Creatinine, mg/dl coFR, ml/min/1.73m ² Fasting plasma glucose, mg/dl Hemoglobin Alc, %	91 17.9 50 1.60 171.6 52.0 68.8 3.4 0.8 83.4 93 5.4	1; < 18.5	BMI 334 20.1 50 1.69 171.4 58.9 74.8 7.2 0.9 9 81.9 94 5.4	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2) (0.79-0.93) (77.0-86.2) (89-99) (5.2-5.6)	889 489 22.1 50 1.76 171.0 64.5 80.0 15.0 0.0 9 81.4 95 5.4	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.69-1.82) (167.3-174.9) (61.5-67.6) (77.3-82.9) (9.5-24.6) (0.80-0.94) (86.2-85.7) (90-101) (5.2-5.6)	Home 412 23.9 50 1.81 170.7 69.8 84.2 27.2 9 80.7 96 5.4	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.8-87.0) (17.7-40.9) (0.81.0-95) (75.0-85.1) (91-102) (5.3-5.6)	375 26.5 50 170.7 77.8 91.0 52.1 0.9 80.3 98 8.5.5	5; 25-30 8947 4.2% (25.7-27.7) (46-54) (1.83-1.98) (166.9-174.7) (73.6-82.4) (87.5-94.8) (36.9-67.5) (0.81-0.96) (74.6-84.8) (92-104) (5.3-5.7)	BM 85 31.7 49 2.05 170.6 93.4 103.8 85.5 0.9 81.4 101 5.7	$16; \ge 30$ 1513 5.6% (30.8-33.5) (45-53) (1.98-2.15) (166.8-174.9) (88.2-100.2) (100.0-108.3) (76.492.5) (0.80-0.96) (75.2-86.0) (94-108) (5.4-5.9)
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, kg Waist circumference, cm Fatty liver index Creatinine, mg/dl coSP, ml/min/1.73m ² Fasting plasma glucose, mg/dl Henoglobin Alc, % Low-density lipoprotein cholesterol, mg/dl	91 17.9 50 1.60 171.6 52.0 68.8 3.4 0.8 8.3.4 9.3 5.4 106	$\begin{array}{l} \textbf{1; < 18.5} \\ \textbf{930} \\ \hline \textbf{9.8\%} \\ (17.3-18.2) \\ (45.54) \\ (1.55-1.67) \\ (168.1-175.4) \\ (49.454.9) \\ (66.0-71.2) \\ (2.2-5.2) \\ (0.77-0.91) \\ (79.0-86.8) \\ (88-98) \\ (5.2-5.6) \\ (89-125) \end{array}$	BM1 334 20.1 50 1.69 171.4 58.9 74.8 7.2 0.9 81.9 94 5.4 115	2; 18.5-21 5799 5.8% (10.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2) (0.79-0.93) (77.0-86.2) (89-99) (5.2-5.6) (97-134)	489 22.1 50 1.76 171.0 64.5 80.0 15.0 0.9 81.4 95 5.4 123	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.69-1.82) (167.3-174.9) (61.5-67.6) (77.3-82.9) (9.5-24.6) (0.80-0.94) (86.2-85.7) (90-101) (5.2-5.6) (104-142)	412 23.9 50 1.81 170.7 69.8 84.2 27.2 0.9 80.7 96 6 5.4 127	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.8*87.0) (1.7.7-40.9) (0.81-0.95) (75.0-85.1) (91-102) (5.3-5.6) (108-147)	375 26.5 50 1.90 170.7 77.8 91.0 52.1 0.9 80.3 98 8.5.5 5.5 130	5; 25-30 8947 4.2% (25.7-27.7) (46-54) (166.9-174.7) (73.6-82.4) (87.5-94.8) (36.9-67.5) (0.81-0.96) (74.6-84.8) (92-104) (5.3-5.7) (111-149)	BM 85 31.7 49 2.05 170.6 93.4 103.8 85.5 0.9 81.4 101 101 5.7 132	$\begin{array}{l} 16 \\ 5 \geq 30 \\ \\ 1513 \\ \\ \mathbf{5.6\%} \\ (30.8-33.5) \\ (45.53) \\ (1.98-2.15) \\ (166.8-174.9) \\ (88.2-100.2) \\ (100.0-108.3) \\ (76.4-92.5) \\ (0.80-0.96) \\ (75.2-86.0) \\ (94-108) \\ (5.4-5.9) \\ (113-150) \end{array}$
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, cm Weight, kg Waist circumference, cm Fatty liver index Creatinie, mg/dl eGFR, ml/min/1.73m ² Fasting plasma glucose, mg/dl Hemoglobin A1e, % Low-density lipoprotein cholesterol, mg/dl High-density lipoprotein cholesterol, mg/dl	91 17.9 50 1.60 171.6 52.0 68.8 3.4 0.8 83.4 93 5.4 106 72	$\begin{array}{l} \textbf{1; < 18.5} \\ \textbf{930} \\ \hline \textbf{9.8\%} \\ (17.3-18.2) \\ (45.54) \\ (1.55.167) \\ (168.1-175.4) \\ (49.4-54.9) \\ (66.0-71.2) \\ (2.2-5.2) \\ (0.77-0.91) \\ (79.0-86.8) \\ (88-98) \\ (5.2-5.6) \\ (89-125) \\ (63-82) \end{array}$	BM1 334 20.1 50 1.69 171.4 58.9 74.8 7.2 0.9 81.9 94 5.4 115 66	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63.1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2) (0.79-0.93) (77.0-86.2) (89-99) (5.2-5.6) (97-134) (57-77)	489 22.1 50 1.76 171.0 64.5 80.0 15.0 0.9 81.4 95 5.4 4 123 60	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.6-91.82) (61.5-67.6) (77.3-82.9) (9.5-24.6) (0.80-0.94) (86.2-85.7) (90-101) (5.2-5.6) (104-142) (52-70)	412 23.9 50 1.81 170.7 69.8 84.2 27.2 0.9 80.7 96 6.5.4 127 56	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (166.9-174.6) (66.6-73.2) (81.8*8.70) (17.7-40.9) (0.81-0.95) (75.0-85.1) (91-102) (5.3-5.6) (108-147) (49-65)	375 26.5 50 1.90 170.7 77.8 91.0 52.1 0.9 80.3 98 5.5 130 52	5; 25-30 8947 4.2% (25.7-27.7) (46-54) (166.9-174.7) (73.6-82.4) (87.5-94.8) (36.9-67.5) (0.81-0.96) (74.6-84.8) (92-104) (5.3-5.7) (111-149) (45-60)	BM 85 31.7 49 2.05 170.6 93.4 103.8 85.5 0.9 81.4 101 5.7 132 48	$\begin{array}{c} 16 \\ 25 \geq 30 \\ \hline 1513 \\ \hline \mathbf{5.6\%} \\ (30.83.5) \\ (45\cdot53) \\ (1.98.2.15) \\ (166.8\cdot174.9) \\ (88.2\cdot100.2) \\ (100.0\cdot108.3) \\ (76.4\cdot92.5) \\ (0.80.0.96) \\ (75.2\cdot86.0) \\ (75.2\cdot86.0) \\ (94\cdot108) \\ (5.4\cdot5.9) \\ (113\cdot150) \\ (42\cdot55) \end{array}$
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, cm Weight, kg Waist circumference, cm Fatty liver index Creatinine, mg/dl eGFR, ml/min/1.73m ² Fasting plasma glucose, mg/dl Hemoglobin A1c, % Low-density lipoprotein cholesterol, mg/dl High-density lipoprotein cholesterol, mg/dl Triglyceride, mg/dl	91 17.9 50 1.60 171.6 52.0 68.8 3.4 0.8 83.4 93 5.4 106 72 72 65	$\begin{array}{l} \textbf{1; < 18.5} \\ \textbf{930} \\ \hline \textbf{9.8\%} \\ (17.3-18.2) \\ (45.54) \\ (1.55.1.67) \\ (168.1-175.4) \\ (49.4.54.9) \\ (66.0.71.2) \\ (2.2-5.2) \\ (0.77-0.91) \\ (79.0-86.8) \\ (88-98) \\ (5.2-5.6) \\ (89-125) \\ (63-82) \\ (51-85) \end{array}$	BM1 334 20.1 50 1.69 171.4 58.9 74.8 7.2 0.9 81.9 81.9 94 5.4 1.15 66 6 73	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2) (0.79-0.93) (77.0-86.2) (89-99) (5.2-5.6) (97-134) (57-77) (55-100)	BMI 489 22.1 500 1.76 171.0 64.5 80.0 15.0 0.9 81.4 95 5.4 123 60 88	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (167.3-174.9) (61.5-67.6) (77.3-82.9) (9.5-24.6) (0.80-0.94) (86.2-85.7) (90-101) (5.2-5.6) (104-142) (52-70) (64-123)	Hat 412 23.9 50 1.81 170.7 69.8 84.2 27.2 0.9 80.7 96 5.4 127 56 101	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.887.0) (17.7-40.9) (0.81-0.95) (75.0-85.1) (91-102) (5.3-5.6) (108-147) (49-65) (73-144)	375 375 26.5 50 1.90 170.7 77.8 91.0 52.1 0.9 80.3 98 5.5 130 52 121	5 ; 25-30 8947 4.2% (25.7-27.7) (46.54) (1.83-1.98) (166.9-174.7) (73.6-82.4) (87.5-94.8) (36.9-67.5) (0.81-0.96) (74.6-84.8) (92-104) (5.3-5.7) (111-149) (45-60) (88-169)	85 31.7 49 2.05 170.6 93.4 103.8 85.5 0.9 81.4 101 5.7 132 48 135	$\begin{array}{c} 16 \\ 5 \geq 30 \\ \hline 1513 \\ \hline \mathbf{5.6\%} \\ (30.83.5) \\ (45.53) \\ (1.98.2.15) \\ (166.8.174.9) \\ (88.2.100.2) \\ (100.0-108.3) \\ (76.4.92.5) \\ (0.800.96) \\ (75.2.86.0) \\ (94.108) \\ (5.4.5.9) \\ (113.150) \\ (42.55) \\ (101.188) \end{array}$
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, cm Weight, kg Waist circumference, cm Fatty liver index Creatinine, mg/dl cGFR, ml/min/1.73m ² Fasting plasma glucose, mg/dl Hingh-density lipoprotein cholesterol, mg/dl High-density lipoprotein cholesterol, mg/dl Triglyceride, mg/dl Systolic blood pressure, mmHg	91 17.9 50 1.60 771.6 52.0 68.8 3.4 0.8 83.4 93 5.4 106 72 65	$\begin{array}{l} 1; < 18.5 \\ \hline 930 \\ \hline 9.8\% \\ (17.3-18.2) \\ (45.54) \\ (1.55-1.67) \\ (168.1-175.4) \\ (49.4-54.9) \\ (66.0-71.2) \\ (2.2-5.2) \\ (0.77-0.91) \\ (79.0-86.8) \\ (88-98) \\ (5.2-5.6) \\ (88-98) \\ (5.2-5.6) \\ (89-125) \\ (63-82) \\ (51-85) \\ (102-121) \end{array}$	BM1 334 20.1 50 1.69 171.4 58.9 74.8 7.2 0.9 81.9 94 5.4 115 66 6 73 114	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2) (0.79-0.93) (77.0-86.2) (89-99) (5.2-5.6) (97-134) (57-77) (55-100) (106-125)	489 22.1 50 1.76 171.0 64.5 80.0 15.0 0.9 81.4 95 5.4 123 60 88 8118	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.69-1.82) (61.5-67.6) (77.3-82.9) (9.5-24.6) (0.80-0.94) (86.2-85.7) (90-101) (5.2-5.6) (104-142) (52-70) (64-123) (109-128)	Hat 412 23.9 50 1.81 170.7 69.8 84.2 27.2 0.9 80.7 96 5.4 127 56 101 121	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.8-87.0) (17.7-40.9) (0.81-0.95) (75.0-85.1) (91-102) (5.3-5.6) (108-147) (49-65) (73-144) (112-131)	375 26.5 50 1.900 170.7 77.8 91.0 52.1 0.9 80.3 98 5.5 130 52 2 2 121 125	5 ; 25-30 8947 4.2% (25.7-27.7) (46-54) (1.83-1.98) (166.9-174.7) (73.6-82.4) (87.5-94.8) (36.9-67.5) (0.81-0.96) (74.6-84.8) (92-104) (5.3-5.7) (111-149) (45-60) (88-169) (116-135)	85 31.7 49 2.05 170.6 93.4 103.8 8.5.5 0.9 8.1.4 101 5.7 132 48 43 135 132	$\begin{array}{c} 16 \\ 5 \geq 30 \\ \hline 1513 \\ \hline \mathbf{5.6\%} \\ (30.83.5) \\ (45-53) \\ (166.8-174.9) \\ (88.2-100.2) \\ (100108.3) \\ (76.4-92.5) \\ (0.80-0.96) \\ (75.2-86.0) \\ (94-108) \\ (5.4-5.9) \\ (113-150) \\ (42-55) \\ (101-188) \\ (124-141) \end{array}$
Male (n) Renal hyperflitration Body mass index, kg/m ² Age, year Body surface area, m ² Height, cm Weight, kg Waist circumference, cm Fatty liver index Creatinine, mg/dl coTR, ml/min/1.73m ² Fasting plasma glucose, mg/dl Hemoglobin Alc, % Low-density lipoprotein cholesterol, mg/dl High-density lipoprotein cholesterol, mg/dl High-density lipoprotein cholesterol, mg/dl Triglyceride, mg/dl Systolic blood pressure, mmHg Diasolic blood pressure, mmHg	91 17.9 50 1.60 171.6 52.0 68.8 3.4 0.8 8.3.4 0.8 8.3.4 106 72 65 1111 170	$\begin{array}{l} 1; < 18.5 \\ \hline 930 \\ \hline 9.8\% \\ (17.3-18.2) \\ (45.54) \\ (1.55-1.67) \\ (168.1-175.4) \\ (49.454.9) \\ (66.0-71.2) \\ (2.2-5.2) \\ (0,77-0.91) \\ (79.0-86.8) \\ (88-98) \\ (88-98) \\ (5.2-5.6) \\ (89-125) \\ (63-82) \\ (51-85) \\ (102-121) \\ (64-78) \end{array}$	BM1 334 20.1 50 1.69 171.4 58.9 74.8 7.2 0.9 81.9 94 5.4 115 66 73 3 114 72	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2) (0.79-0.93) (77.0-86.2) (89-99) (5.2-5.6) (97-134) (57-77) (55-100) (106-125) (66-80)	BM1 489 22.1 50 1.76 4.5 80.0 15.0 0.9 81.4 95 5.4 123 60 88 8 8 118 138	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.69-1.82) (167.3-174.9) (61.5-67.6) (77.3-82.9) (9.5-24.6) (0.80-0.94) (86.2-85.7) (90-101) (52-5.6) (104-142) (52-70) (64-123) (109-128) (68-83)	412 23.9 50 1.81 170.7 69.8 84.2 27.2 0.9 80.7 96 5.4 127 56 101 121 77	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.8-87.0) (1.7.7-40.9) (0.81-0.95) (75.0-85.1) (91-102) (5.3-5.6) (108-147) (49-65) (73-144) (112-131) (70-85)	375 26.5 50 1.90 170.7 77.8 91.0 52.1 0.9 80.3 98 5.5 130 52 121 125 80	5 ; 25-30 8947 4.2% (25.7-27.7) (46-54) (16.8-1.98) (166.9-174.7) (73.6-82.4) (87.5-94.8) (36.9-67.5) (0.81-0.96) (74.6-84.8) (92-104) (5.3-5.7) (111-149) (45-60) (88-169) (116-135) (73-88)	BM 85 31.7 49 2.05 170.6 93.4 103.8 85.5 0.9 81.4 101 5.7 132 48 135 132 85	$\begin{array}{l} 16 \\ 5 \geq 30 \\ \\ 1513 \\ \\ \mathbf{5.6\%} \\ (30.8-33.5) \\ (45.53) \\ (1.98-2.15) \\ (166.8-174.9) \\ (88.2-100.2) \\ (100.6-108.3) \\ (76.4-92.5) \\ (0.80-0.96) \\ (75.2-86.0) \\ (00.4-108.3) \\ (75.2-86.0) \\ (94-108) \\ (5.4-5.9) \\ (113-159) \\ (42-55) \\ (101-188) \\ (124-141) \\ (78-92) \end{array}$
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, kg Waist circumference, cm Fatty liver index Creatinine, mg/dl coCR, ml/min/1.73m ² Fasting plasma glucose, mg/dl Henoglobin Alc, % Low-density lipoprotein cholesterol, mg/dl High-density lipoprotein cholesterol, mg/dl Triglyceride, mg/dl Systolic blood pressure, mmHg Diastolic blood pressure, mmHg Medication use	91 17.9 50 1.60 171.6 52.0 68.8 3.4 0.8 83.4 93 5.4 106 72 65 111 11 70	$\begin{array}{c} \textbf{1; < 18.5} \\ \textbf{930} \\ \hline \textbf{9.8\%} \\ (17.3-18.2) \\ (45.54) \\ (1.55.167) \\ (168.1-175.4) \\ (49.454.9) \\ (66.0-71.2) \\ (2.2-5.2) \\ (0.77-0.91) \\ (79.0-86.8) \\ (88-98) \\ (5.2-5.6) \\ (89-125) \\ (63-82) \\ (51-85) \\ (102-121) \\ (64-78) \end{array}$	BM1 334 20.1 50 1.69 171.4 58.9 7.2 0.9 81.9 94 5.4 115 66 73 114 115	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2) (0.79-0.93) (77.0-86.2) (89-99) (5.2-5.6) (97-134) (57-77) (55-100) (106-125) (66-80)	BM1 489 22.1 50 1.76 171.0 64.5 80.0 15.0 0.9 81.4 95 5.4 123 60 88 118 75	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.6-21.82) (167.3-174.9) (61.5-67.6) (77.3-82.9) (9.5-24.6) (0.80-0.94) (80.2-85.7) (90-101) (52-5.6) (104-142) (52-70) (64-123) (109-128) (68-83)	Hat 412 23.9 50 1.81 170.7 69.8 84.2 27.2 27.2 27.3 80.7 96 5.4 127 56 101 121 77	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.8*87.0) (17.7-40.9) (0.81-0.95) (75.0-85.1) (91-102) (5.3-5.6) (108-147) (49-65) (73-144) (112-131) (70-85)	375 26.5 50 1.90 170.7 77.8 91.0 52.1 0.9 80.3 98 5.5 130 52 121 125 80	5 ; 25-30 8947 4 .2% (25.727.7) (46-54) (166.9-174.7) (73.6-82.4) (87.5-94.8) (36.9-67.5) (0.81-0.96) (74.6-84.8) (92-104) (5.3-5.7) (111-149) (45-60) (88-169) (116-135) (73-88)	BM 85 31.7 49 2.05 170.6 93.4 103.8 85.5 0.9 81.4 101 5.7 132 48 135 135 135 135 85	$\begin{array}{c} 16 \\ 5 \geq 30 \\ \hline 1513 \\ \hline \mathbf{5.6\%} \\ (30.8.3.5) \\ (45.53) \\ (1.982.15) \\ (166.8.174.9) \\ (88.2.16) \\ (100.0-108.3) \\ (76.4.92.5) \\ (0.80-0.96) \\ (75.2.86.0) \\ (94.108) \\ (5.4.5.9) \\ (113.150) \\ (42.55) \\ (101.188) \\ (124.141) \\ (78.92) \end{array}$
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, cm Weight, kg Waist circumference, cm Fatty liver index Creatinine, mg/dl cOFR, ml/min/1.73m ² Fasting plasma glucose, mg/dl Hemoglobin A1c, % Low-density lipoprotein cholesterol, mg/dl High-density lipoprotein cholesterol, mg/dl Triglyceride, mg/dl Systolic blood pressure, mmHg Disatolic blood pressure, mmHg Medication use Lipid lowering drug (n)	BMI 91 17.9 50 1.60 171.6 52.0 68.8 83.4 0.8 83.4 93 5.4 106 72 65 111 70 228	$\begin{array}{l} 1; < 18.5 \\ \hline 930 \\ \hline 9.8\% \\ (17.3-18.2) \\ (45.54) \\ (1.55.167) \\ (168.1-175.4) \\ (49.4-54.9) \\ (66.0-71.2) \\ (2.2-5.2) \\ (0.77-0.91) \\ (79.0-86.8) \\ (88-98) \\ (5.2-5.6) \\ (68-125) \\ (63-82) \\ (51-85) \\ (102-121) \\ (64-78) \\ \hline 3.0\% \\ \hline 3.0\% \end{array}$	BM1 334 20.1 50 1.69 171.4 58.9 7.4.8 7.2 0.9 81.9 94 5.4 5.4 115 66 73 114 72 5.4 115 88.9 124 125 124 124 124 124 124 124 124 124 124 124	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2) (0.79-0.93) (77.0-86.2) (89-99) (5.2-5.6) (97-134) (57-77) (55-100) (106-125) (66-80) 3.2%	BMI 489 22.1 50 1.76 171.0 64.5 80.0 15.0 0.9 81.4 95 5.4 123 60 88 118 75 202 202 202	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.6-91.82) (167.3-174.9) (61.5-67.6) (77.3-82.9) (9.5-24.6) (0.80-0.94) (86.2-85.7) (90-101) (5.2-5.6) (104-142) (52-70) (64-123) (109-128) (68-83) 6.1% 7.9%	412 23.9 50 1.81 170.7 69.8 84.2 27.2 27.2 27.2 27.2 27.2 9.6 5.4 10.7 127 56 101 121 77 77 3 777 3	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.8*8.70) (17.7-40.9) (0.81-0.95) (75.0-85.1) (91-102) (5.3-5.6) (108-147) (49-65) (73-144) (112-131) (70-85) 8.4%	375 26.5 50 1.90 170.7 77.8 91.0 52.1 1.0 9 80.3 98 5.5 130 52 121 125 80 0 22 80 1208	5; 25-30 8947 4.2% (25.7-27.7) (46-54) (166.9-174.7) (73.6-82.4) (87.5-94.8) (36.9-67.5) (0.81-0.96) (74.6-84.8) (92-104) (5.3-5.7) (111-149) (45-60) (88-169) (116-135) (73-88) 13.5%	BM 85 31.7 49 2.05 170.6 93.4 103.8 85.5 0.9 81.4 101 5.7 132 48 135 132 48 135 132 52 85	$\begin{array}{c} 16 \\ 5 \geq 30 \\ \hline 1513 \\ \hline \mathbf{5.6\%} \\ (30, 83.5) \\ (45-53) \\ (1.98.2.15) \\ (166, 8-174.9) \\ (88, 2-100.2) \\ (100, 0-108.3) \\ (76, 4-92.5) \\ (0, 80-0.96) \\ (75, 2-86.0) \\ (94-108) \\ (5, 4-5.9) \\ (113-150) \\ (42-55) \\ (101-188) \\ (124-141) \\ (78-92) \\ \hline \mathbf{18.0\%} \\ \mathbf{32.8\%} \end{array}$
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, cm Weight, kg Waist circumference, cm Fatty liver index Creatinine, mg/dl eGFR, ml/min/1.73m ² Fasting plasma glucose, mg/dl Heigh-density lipoprotein cholesterol, mg/dl High-density lipoprotein cholesterol, mg/dl Triglyceride, mg/dl Systolic blood pressure, mmHg Diastolic blood pressure, mmHg Diastolic blood pressure, mmHg Lipid lowering drug (n) Antihypertension drug (n)	BMI 91 17.9 50 1.60 171.6 52.0 68.8 83.4 0.8 83.4 93 5.4 106 72 65 111 70 28 28 28	$\begin{array}{l} 1; < 18.5 \\ \hline 930 \\ \hline 9.8\% \\ (17.3-18.2) \\ (45.54) \\ (1.55.1.67) \\ (168.1-175.4) \\ (49.4.54.9) \\ (60.671.2) \\ (2.2-5.2) \\ (0.77-0.91) \\ (79.0-86.8) \\ (88-98) \\ (5.2-5.6) \\ (88-28) \\ (5.2-5.6) \\ (89-125) \\ (63-82) \\ (51-85) \\ (102-121) \\ (64-78) \end{array}$	BM1 334 20.1 50 1.69 171.4 58.9 74.8 7.2 0.9 81.9 94 5.4 115 66 73 114 115 66 73 114 115 88 285	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2) (0.79-0.93) (77.0-86.2) (89-99) (5.2-5.6) (97-134) (57-77) (55-100) (106-125) (66-80) 3.2% 4.9%	890 489 22.1 500 1.76 64.5 80.0 15.0 0.9 81.4 95 5.4 123 60 88 8118 118 75 602 769	3; 21-23 9828 5,0% (21.6-22.5) (46-55) (1.69-1.82) (167.3-174.9) (61.5-67.6) (77.3-82.9) (9.5-24.6) (0.80-0.94) (86.2-85.7) (90-101) (5.2-5.6) (104-142) (52-70) (64-123) (109-128) (68-83) 6.1% 7.8%	Hat 412 23.9 50 1.81 170.7 69.8 84.2 27.2 0.9 80.7 96 5.4 127 56 101 121 77 783 1072	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.8-87.0) (17.7-40.9) (0.81-0.95) (75.0-85.1) (91-102) (5.3-5.6) (108-147) (49-65) (73-144) (112-131) (70-85) 8.4% 11.5%	375 26.5 50 1.90 170.7 77.8 91.0 52.1 0.9 80.3 98 5.5 130 52 121 125 80 1208 1836	5 ; 25-30 8947 4.2% (25.7-27.7) (46.54) (1.83-1.98) (166.9-174.7) (73.6-82.4) (87.5-94.8) (36.9-67.5) (0.81-0.96) (74.6-84.8) (92-104) (5.3-5.7) (111-149) (45-60) (88-169) (116-135) (73-88) 13.5% 20.5%	BM 85 31.7 49 2.05 170.6 93.4 103.8 85.5 0.9 81.4 101 5.7 132 48 135 132 85 273 512	$\begin{array}{c} 16 \\ 5 \geq 30 \\ \hline 1513 \\ \hline \mathbf{5.6\%} \\ (30.83.5) \\ (45.53) \\ (145.53) \\ (168.2100.2) \\ (108.2.15) \\ (166.8.174.9) \\ (88.2-100.2) \\ (100.0-108.3) \\ (75.4.92.5) \\ (0.800.0\%) \\ (75.2.86.0) \\ (04-108) \\ (5.4.5.9) \\ (175.2.86.0) \\ (04-108) \\ (5.4.5.9) \\ (113-150) \\ (42.55) \\ (101-188) \\ (124-141) \\ (75.92) \\ \hline \\ \mathbf{18.0\%} \\ \mathbf{33.8\%} \end{array}$
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, cn Weight, kg Waist circumference, cm Fatty liver index Creatinine, mg/dl cGFR, ml/min/1.73m ² Fasting plasma glucose, mg/dl High-density lipoprotein cholesterol, mg/dl High-density lipoprotein cholesterol, mg/dl Triglyceride, mg/dl Systolic blood pressure, mmHg Diatolic blood pressure, mmHg Diatolic blood pressure, mmHg Diatolic blood pressure, mmHg Distolic blood pressure, mmHg Distolic blood pressure, mmHg Distolic blood pressure, mmHg Distolic blood pressure, mmHg Circent encelong (n) Antihypertension drug (n) Circent encelong (p)	BMI 91 17.9 50 1.60 0171.6 52.0 68.8 3.4 0.8 83.4 93 5.4 106 72 65 111 70 28 28 28	1; < 18.5	BM1 334 20.1 50 1.69 171.4 58.9 74.8 7.2 0.9 81.9 94 5.4 115 66 67 3 114 72 188 285	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2) (0.79-0.93) (77.0-86.2) (89-99) (5.2-5.6) (97-134) (57-77) (55-100) (106-125) (66-80) 3.2% 4.9%	8MI 489 22.1 500 1.76 171.0 64.5 80.0 15.0 0.9 81.4 95 5.4 123 60 88 81.4 123 60 88 81.4 75 602 769	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.69-1.82) (61.5-67.6) (77.3-82.9) (9.5-24.6) (0.80-0.94) (86.2-85.7) (90-101) (5.2-5.6) (104-142) (52-70) (64-123) (109-28) (68-83) 6.1% 7.8%	Hat 412 23.9 50 1.81 170.7 69.8 84.2 27.2 0.9 80.7 96 5.4 127 56 101 121 77 783 1072	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.8-87.0) (17.7-40.9) (0.81-0.95) (75.0-85.1) (91-102) (5.3-5.6) (108-147) (49-65) (73-144) (112-131) (70-85) 8.4% 11.5%	375 26.5 50 1.90 170.7 77.8 91.0 52.1 0.9 80.3 98 5.5 130 52 121 125 80 1208 1836	5 ; 25-30 8947 4.2% (25.7-27.7) (46-54) (1.83-1.98) (166.9-174.7) (73.6-82.4) (87.5-94.8) (36.9-67.5) (0.81-0.96) (74.6-84.8) (92-104) (5.3-5.7) (111-149) (45-60) (88-169) (116-135) (73-88) 13.5% 20.5%	BM 85 31.7 49 2.05 170.6 93.4 103.8 85.5 0.9 81.4 101 5.7 132 48 135 132 85 273 512	$\begin{array}{c} 16 \\ 5 \geq 30 \\ 1513 \\ \mathbf{5.6\%} \\ (30.8-33.5) \\ (45-53) \\ (1.98-2.15) \\ (1.66.8-174.9) \\ (88.2-100.2) \\ (100.4-108.3) \\ (76.4-92.5) \\ (0.80-0.96) \\ (75.2-86.0) \\ (04-108) \\ (5.4-5.9) \\ (113-150) \\ (42-55) \\ (101-188) \\ (124-141) \\ (78-92) \\ \hline \\ \mathbf{18.0\%} \\ \mathbf{33.8\%} \\ \mathbf{23.3\%} \end{array}$
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, kg Waist circumference, cm Fatty liver index Creatinine, mg/dl eGFR, ml/min/1.73m ² Fasting plasma glucose, mg/dl Henoglobin Alc, % Low-density lipoprotein cholesterol, mg/dl Triglyceride, mg/dl Systolic blood pressure, mmHg Diastolic blood pressure, mmHg Medication use Lipid lowering drug (n) Antihypertension drug (n) Lifestyle Current smoking (n) Daily driving (n)	91 17.9 50 1.60 171.6 52.0 68.8 3.4 0.8 8.3.4 9.3 5.4 106 72 665 1111 70 28 28 28 28 28 209 971	1; < 18.5	BMI 334 20.1 50 1.69 171.4 58.9 7.2 0.9 81.9 9.4 115 66 73 114 72 115 88 285 115 164 73 114 72 115 188 285 115 166 169 169 169 169 169 171.4 172 171.4 172 172 172 172 172 172 172 172	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2) (0.79-0.93) (77.0-86.2) (89-99) (52-5.6) (97-134) (57-77) (55-100) (106-125) (66-80) 3.2% 4.9%	BM1 489 22.1 50 1.766 171.0 64.5 80.0 15.0 0.9 81.4 95 5.4 4 123 60 88 8 118 75 75 602 769	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.69-1.82) (167.3-174.9) (61.5-67.6) (77.3-82.9) (9.5-24.6) (0.80-0.94) (80.2-85.7) (90-101) (52-5.6) (104-142) (52-70) (64-123) (109-128) (68-83) 6.1% 7.8%	BMII 412 23.9 50 1.81 170.7 69.8 84.2 27.2 0.9 80.7 96 5.4 127 56 101 121 77 783 1072 1855 2961	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.8*87.0) (1.7.7-40.9) (0.81-0.95) (75.0-85.1) (91-102) (5.3-5.6) (108-147) (49-65) (73-144) (112-131) (70-85) 8.4% 11.5%	BMI 375 26.5 50 1.90 170.7 77.8 91.0 52.1 0.9 80.3 98 5.5 130 52 121 125 80 1218 80 1208 1386	5; 25-30 8947 4.2% (25,7-27,7) (46-54) (166-9-174,7) (73,6-82,4) (87,5-94,8) (36,9-67,5) (0,81-0,96) (74,6-84,8) (92-104) (5,3-5,7) (111-149) (45-60) (88-169) (116-135) (73-88) 13,5% 20,5%	BM 85 31.7 49 2.05 170.6 93.4 103.8 85.5 0.9 81.4 101 5.7 132 48 135 132 85 132 85	$\begin{array}{c} 16 \\ 5 \geq 30 \\ 1513 \\ \mathbf{5.6\%} \\ (30.8-33.5) \\ (45.53) \\ (1.98-2.15) \\ (166.8-174.9) \\ (88.2-100.2) \\ (100.0-108.3) \\ (76.4-92.5) \\ (0.80-0.96) \\ (75.2-86.0) \\ (010.0-108.3) \\ (75.2-86.0) \\ (94-108) \\ (13-159) \\ (42-55) \\ (101-188) \\ (124-141) \\ (78-92) \\ \mathbf{18.0\%} \\ \mathbf{33.8\%} \\ \mathbf{23.3\%} \\ \mathbf{23.3\%} \end{array}$
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, kg Waist circumference, cm Fatty liver index Creatinine, mg/dl coCR, ml/min/1.73m ² Fasting plasma glucose, mg/dl Height, kg Uow-density lipoprotein cholesterol, mg/dl High-density lipoprotein cholesterol, mg/dl Triglyceride, mg/dl Systolic blood pressure, mmHg Diastolic blood pressure, mmHg Medication use Lipid lowering drug (n) Antihypertension drug (n) Diastolic blood pressure, mmHg Diastolic blood pressure, mmHg Diastolic blood pressure, mmHg Medication use Lifestyle Current smoking (n) Dilkg or more wately train time area 20 (n)	BMI 91 17.9 50 1.60 171.6 52.0 68.8 3.4 0.8 83.4 0.8 83.4 106 72 65 54 101 170 70 28 28 28 209 271 7	1; < 18.5	BMI 334 20.1 50 1.69 171.4 58.9 74.8 7.2 0.9 81.9 94 5.4 115 66 73 114 115 66 73 114 72 188 285 1125 1886 3125 1896 3125 1896 3125 1896 3125 1896 3125 1896 3125 1896 3125 1896 3125 1896 3125 1896 3125 1896 3125 1896 3125 1896 3125 1896 3125 1896 3125 1896 3125 1896 1997	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2) (0.79-0.93) (77.0-86.2) (89-99) (52-5.6) (97-134) (57-77) (55-100) (106-125) (66-80) 3.2% 4.9% 19.4% 32.9% 5.4%	BMI 489 22.1 50 1.76 171.0 64.5 80.0 15.0 0.9 81.4 95 5.4 123 60 88 118 75 602 75 602 75 602 75 602 75 602 75 602 75 602 75 602 75 75 602 75 75 602 75 75 75 75 75 75 75 75 75 75	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.69-1.82) (167.3-174.9) (61.5-67.6) (77.3-82.9) (9.5-24.6) (0.80-0.94) (80-285.7) (90-101) (52-5.6) (104-142) (52-70) (64-123) (109-128) (68-83) 6.1% 7.8% 19.1% 33.5% 71.8%	Hat 412 23.9 50 1.81 170.7 69.8 84.2 27.2 27.2 27.2 0.9 80.7 9 56 101 127 56 101 127 783 1072 1855 2961 432	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.8-87.0) (17.7-40.9) (0.81-0.95) (75.0-85.1) (91-102) (5.3-5.6) (108-147) (49-65) (73-144) (112-131) (70-85) 8.4% 11.5% 20.0% 32.0% 47.0%	BMI 375 26.5 50 1.90 170.7 77.8 91.0 52.1 0.9 80.3 98 5.5 130 52 121 122 125 80 1208 1836 1964 2540 639	5; 25-30 8947 4.2% (25.7-27.7) (46-54) (166.9-174.7) (73.6-82.4) (87.5-94.8) (36.9-67.5) (0.81-0.96) (74.6-84.8) (92-104) (5.3-5.7) (111-149) (45-60) (88-169) (116-135) (73-88) 13.5% 22.0% 28.6% 75.1%	BM 85 31.7 49 2.05 170.6 93.4 103.8 85.5 0.9 81.4 101 5.7 132 48 135 132 85 2.73 352 2.86 1314	$\begin{array}{c} 16 \\ 5 \geq 30 \\ \hline 1513 \\ \hline \mathbf{5.6\%} \\ (30.8.3.5) \\ (45.53) \\ (1.98.2.15) \\ (166.8.174.9) \\ (88.2.100.2) \\ (100.0.108.3) \\ (106.4.2.5) \\ (108.0.108.3) \\ (175.2.86.0) \\ (04.108) \\ (5.4.5.9) \\ (113.150) \\ (42.55) \\ (101.188) \\ (124.141) \\ (78.92) \\ \hline \mathbf{18.0\%} \\ \hline \mathbf{33.8\%} \\ \hline \mathbf{23.3\%} \\ \mathbf{19.0\%} \\ \mathbf{88.0\%} \end{array}$
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, cm Weight, kg Waist circumference, cm Fatty liver index Creatinie, mg/dl eGFR, ml/min/1.73m ² Fasting plasma glucose, mg/dl Hemoglobin Ale, % Low-density lipoprotein cholesterol, mg/dl High-density lipoprotein cholesterol, mg/dl Triglyceride, mg/dl Systolic blood pressure, mmHg Diastolic blood pressure, mmHg Medication use Lipid lowering drug (n) Atthypet Current smoking (n) Daily drinking (n) 10kg or more weight gain since age 20 (n) 30 minutes arous profestion	BMI 91 17.9 50 1.60 171.6 52.0 68.8 83.4 0.8 83.4 0.8 83.4 106 72 65 111 70 28 28 28 209 271 2 10 10 10 10 10 10 10 10 10 10	1; < 18.5	BM1 334 20.1 50 1.69 171.4 58.9 74.8 7.2 0.9 81.9 94 5.4 115 66 73 114 72 188 285 1125 1896 312 51996 312	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2) (0.79-0.93) (77.0-86.2) (89-99) (5.2-5.6) (97-134) (57-77) (55-100) (106-125) (66-80) 3.2% 4.9% 19.4% 32.9% 5.4% 72.9%	800 489 22.1 50 1.76 171.0 64.5 80.0 15.0 0.9 81.4 95 5.4 123 60 88 118 75 602 769 1877 3277 2119 2015	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.6-91.82) (167.3-174.9) (61.5-67.6) (77.3-82.9) (9.5-24.6) (0.80-0.94) (86.2-85.7) (90-101) (5.2-5.6) (104-142) (52-70) (64-123) (104-142) (52-70) (64-123) (104-142) (52-70) (64-123) (104-142) (52-70) (64-123) (104-142) (52-70) (64-123) (104-142) (52-70) (64-123) (104-142) (52-70) (64-123) (104-142) (52-70) (64-123) (104-142) (52-70) (64-123) (104-142) (52-70) (64-123) (104-142) (52-70) (64-123) (104-142) (52-70) (64-128) (63-83) -1.1% -1.8% -2.9% -	Hat 412 23.9 50 1.81 170.7 69.8 84.2 27.2 0.9 80.7 96 5.4 127 56 101 121 777 783 1072 1855 2961 4322 7618*	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.8*7.0) (1.7.7-40.9) (0.81-0.95) (75.0-85.1) (91-102) (5.3-5.6) (108-147) (49-65) (73-144) (112-131) (70-85) 8.4% 11.5% 20.0% 32.0% 47.0% 28.3%	BMI 375 26.5 50 1.90 170.7 77.8 91.0 52.1 0.9 80.3 98 5.5 1300 52 121 125 80 1208 1836 1964 2540 6639 2735	5; 25-30 8947 4.2% (25.7-27.7) (46-54) (1.83-1.98) (166.9-174.7) (73.6-82.4) (87.5-94.8) (36.9-67.5) (0.81-0.96) (74.6-84.8) (92-104) (5.3-5.7) (111-149) (45-60) (88-169) (116-135) (73-88) 13.5% 20.0% 28.6% 75.1% 25.1%	BM 85 31.7 49 2.05 170.6 93.4 103.8 85.5 0.9 81.4 101 5.7 132 48 135 132 48 85 273 512 273 512 286 1314 307	16; ≥ 30 1513 5.6% (30.83.5) (45-53) (1.98.2.15) (166.8-174.9) (88.2-100.2) (100.0-108.3) (76.492.5) (0.80.0.96) (75.2-86.0) (94-108) (5.45.9) (113-150) (42-55) (101-188) (124-141) (78-92) 23.3% 19.0% 88.0% 20.4%
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, cm Weight, kg Waist circumference, cm Fatty liver index Creatinine, mg/dl eGFR, ml/min/1.73m ² Fasting plasma glucose, mg/dl Hemoglobin A1c, % Low-density lipoprotein cholesterol, mg/dl High-density lipoprotein cholesterol, mg/dl Triglyceride, mg/dl Systolic blood pressure, mmHg Diastolic blood pressure, mmHg Medication use Lipid lowering drug (n) Anthypertension drug (n) Lifestyle Current smoking (n) Daily drinking (n) 10kg or more weight gain since age 20 (n) 30 minutes or more per day exercise (n) Midniety terine (n)	BMI 91 17.9 50 1.600 171.6 52.0 68.8 83.4 93 5.4 106 72 65 111 70 28 28 28 28 28 209 271 2 2 8 209 271 2 1 2 191 9 272	1; < 18.5	BM1 334 20.1 50 1.69 171.4 58.9 74.8 7.2 0.9 81.9 94 5.4 1.15 66 73 114 1.15 66 73 114 1.15 82 85 1.125 1.896 312 1.697 1.69	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2) (0.79-0.93) (77.0-86.2) (89-99) (5.2-5.6) (97-134) (57-77) (55-100) (106-125) (66-80) 3.2% 4.9% 5.4% 32.9% 5.4% 5.4% 5.4%	889 489 22.1 50 1.76 64.5 80.0 15.0 0.9 81.4 95 5.4 123 60 88 118 75 602 769 769 769 769 769 769 769 769	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.69-1.82) (167.3-174.9) (61.5-67.6) (77.3-82.9) (9.5-24.6) (0.80-0.94) (86.2-85.7) (90-101) (5.2-5.6) (104-142) (52-70) (64-123) (109-128) (68-83) 6.1% 7.8% 6.1% 7.8% 19.1% 33.5% 21.8% 29.9%	Hat 412 23.9 50 1.81 170.7 69.8 84.2 27.2 0.9 80.7 96 5.4 127 56 101 121 77 783 1072 1855 2961 4322 2618	44; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.8-87.0) (17.7-40.9) (0.81-0.95) (75.0-85.1) (91-102) (5.3-5.6) (108-147) (49-65) (73-144) (112-131) (70-85) 8.4% 11.5% 20.0% 32.0% 47.0% 28.3% 31.6%	BMI 375 26.5 50 1.90 170.7 77.8 91.0 52.1 0.9 80.3 98 5.5 1300 52 121 125 80 1208 1836 1964 2540 6639 2235 29067	5; 25-30 8947 4.2% (25.7-27.7) (46.54) (1.83-1.98) (166.9-174.7) (73.6-82.4) (87.5-94.8) (36.9-67.5) (0.81-0.96) (74.6-84.8) (92-104) (5.3-5.7) (111-149) (45-60) (88-169) (116-135) (73-88) 13.5% 20.5% 22.0% 28.6% 75.1% 23.8%	BM 85 31.7 49 2.05 170.6 93.4 103.8 85.5 0.9 81.4 101 5.7 132 48 135 132 48 135 132 265 273 512 286 1314 307 550	16; ≥ 30 1513 5.6% (30.83.5) (45-53) (1.98-2.15) (166.8-174.9) (88.2-100.2) (100.0-108.3) (76.4-92.5) (0.80-0.96) (75.2-86.0) (94-108) (5.4-5.9) (113-150) (42-55) (101-188) (124-141) (78-92) 18.0% 33.8% 23.3% 19.0% 88.0% 20.4%
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, cm Weight, kg Waist circumference, cm Farty liver index Creatinine, mg/dl eGFR, ml/min/1/73m ² Fasting plasma glucose, mg/dl Henoglobin Alc, % Low-density lipoprotein cholesterol, mg/dl High-density lipoprotein cholesterol, mg/dl Systolic blood pressure, mmHg Diastolic blood pressure, mmHg Diaston more wei	91 17.9 50 1.60 171.6 52.0 68.8 3.4 0.8 8.3.4 0.8 8.3.4 0.8 8.3.4 106 72 65 54 106 72 65 52.0 28 28 209 2711 209 2711 21 209 2711 21 21 21 21 21 21 21 21 21 21 21 21 2	1; < 18.5	BMI 334 20.1 50 1.69 171.4 58.9 7.2 0.9 81.9 94 4.5.4 115 66 73 114 72 115 188 285 1896 312 1607 1698 764 764 765 765 775 765 775 775 775 775	2; 18.5-21 5799 5.8% (19.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2) (0.79-0.93) (77.0-86.2) (89-99) (52-5.6) (97-134) (57-77) (55-100) (106-125) (66-80) 19.4% 3.2% 4.9% 19.4% 3.29% 5.4% 27.9% 29.6% 13.4%	BM1 489 22.1 50 1.766 171.0 64.5 80.0 1.5.0 0.9 81.4 123 60 88 88 118 75 602 769 1877 3277 2119 2925 2911 1162	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.69-1.82) (167.3-174.9) (61.5-67.6) (77.3-82.9) (9.5-24.6) (0.80-0.94) (86.2-85.7) (90-101) (52-5.6) (104-142) (52-5.6) (104-142) (52-70) (64-123) (68-83) 6.1% 7.8% 19.1% 33.5% 21.8% 29.9% 29.9% 19.0%	Hat 412 23.9 50 1.81 170.7 69.8 84.2 27.2 0.9 80.7 96 5.4 127 56 101 121 77 783 1072 1855 2961 4322 2618 2901 1109	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.8-87.0) (1.7.7-40.9) (0.81-0.95) (75.0-85.1) (91-102) (5.3-5.6) (108-147) (49-65) (73-144) (112-131) (70-85) 8.4% 11.5% 20.0% 22.0% 22.0% 23.0% 24.0% 25.0% 25.0% 25.0% 25.0% 25.0% 25.0% 25.0	BMI 375 26.5 500 1.900 170.7 77.8 91.0 52.1 0.9 80.3 98 5.5 130 52 121 125 80 1208 1836 964 2540 6639 2235 2907 1152	5; 25-30 8947 4.2% (25.7-27.7) (46-54) (1.83-1.98) (166-9.174.7) (73.6-82.4) (87.5-94.8) (36.9-67.5) (0.81-0.96) (74.6-84.8) (92-104) (5.3-5.7) (111-149) (45-60) (88-169) (116-135) (73-88) 13.5% 20.5% 22.0% 28.6% 75.1% 25.1% 32.8% 13.1%	BM 85 31.7 49 2.05 170.6 93.4 103.8 85.5 0.9 81.4 101 5.7 132 85 273 512 286 1314 307 520 236	16; ≥ 30 1513 5.6% (30.8-33.5) (45-53) (1.98-2.15) (166.8-174.9) (88.2-100.2) (100.4-108.3) (76.4-92.5) (0.80-96) (75.2-86.0) (94-108) (5.4-5.9) (113-150) (42-55) (101-188) (124-141) (78-92) 23.3% 23.3% 23.3% 23.3% 19.0% 88.0% 20.4% 34.8%
Male (n) Renal hyperfiltration Body mass index, kg/m ² Age, year Body surface area, m ² Height, cm Weight, kg Waist circumference, cm Fatty liver index Creatinine, mg/dl cGFR, ml/min/1.73m ² Fasting plasma glucose, mg/dl Henoglobin AIc, % Low-density lipoprotein cholesterol, mg/dl High-density lipoprotein cholesterol, mg/dl High-density lipoprotein cholesterol, mg/dl Systolic blood pressure, mmHg Diastolic blood pressure, mmHg Medication use Lifestyle Current smoking (n) Dily drinking (n) Didy drinking (n) Jog r more weight gain since age 20 (n) 30 minutes or more per day exercise (n) Midnight eating (n) Skipping breakfat (n) Ademate stering (n) Abilinging heakfat (n)	BMI 91 17.9 50 1.60 171.6 52.0 68.8 3.4 0.8 8.3,4 0.8 8.3,4 106 72 65 51 111 70 28 28 28 209 271 2 1 91 191 282 28 243 557	1; < 18.5	BMI 334 20.1 50 1.69 171.4 58.9 74.8 7.2 0.9 81.9 94 5.4 115 66 73 114 72 188 285 1125 1896 3122 1607 1698 764 764 764 765 765 765 765 765 765 765 775 77	2; 18.5-21 5799 5.8% (10.5-20.6) (45-54) (1.63-1.75) (167.6-175.3) (56.0-61.8) (72.0-77.7) (4.6-12.2) (0.79-0.93) (77.0-86.2) (89-99) (52-5.6) (97-134) (57-77) (55-100) (106-125) (66-80) 3.2% 4.9% 5.4% 27.9% 29.6% 13.4% 65.1%	BMI 489 22.1 50 1.76 171.0 64.5 80.0 15.0 0.9 81.4 95 5.4 123 60 88 118 75 602 769 1877 3277 2119 2925 2911 1162 6490	3; 21-23 9828 5.0% (21.6-22.5) (46-55) (1.6-2.5) (1.6-2.5) (1.6-2.5) (1.6-2.5) (1.6-2.5) (1.6-2.5) (1.6-2.5) (1.6-2.5) (0.80-0.94) (82-28,5,7) (90-101) (52-2,6) (104-142) (52-70) (64-123) (104-142) (52-70) (64-123) (104-142) (68-83) 6.1% 7.8% 29.9% 29.9% 29.9% 29.9% 29.9% 29.9%	BHIII 412 23.9 50 1.81 170.7 69.8 84.2 27.2 27.2 0.9 80.7 96 5.4 127 56 101 121 77 783 1072 1855 2961 4322 2618 2901 1109 6077	4; 23-25 9295 4.4% (23.5-24.4) (46-55) (1.75-1.88) (166.9-174.6) (66.6-73.2) (81.8-87.0) (1.7.7-40.9) (0.81-0.95) (75.0-85.1) (91-102) (5.3-5.6) (108-147) (49-65) (73-144) (112-131) (70-85) 8.4% 11.5% 20.0% 32.0% 47.0% 28.3% 31.6% 12.1% (66.2%	BMI 375 26.5 50 1.90 170.7 77.8 91.0 52.1 0.9 80.3 98 5.5 130 52 121 125 80 1208 1836 1208 1836 1964 2540 6639 2235 2907 1152 5784	5; 25-30 8947 4.2% (25.7-27.7) (46-54) (166.9-174.7) (73.6-82.4) (87.5-94.8) (36.9-67.5) (0.81-0.96) (74.6-84.8) (92-104) (5.3-5.7) (111-149) (45-60) (88-169) (116-135) (73-88) 13.5% 22.0% 28.6% 75.1% 22.8% 13.1% (5.4%)	BM 85 31.7 49 2.05 170.6 93.4 103.8 85.5 0.9 81.4 101 5.7 132 48 135 132 48 135 132 2.85 2.73 352 2.86 1314 4 307 520 2.26 882	16; ≥ 30 1513 5.6% (30.8-33.5) (45-53) (1.98-2.15) (166.8-174.9) (88.2-100.2) (100.0-108.3) (76.4-92.5) (0.80-0.96) (75.2-86.0) (94-108) (5.4-5.9) (113-150) (42-55) (101-188) (124-141) (78-92) 23.3% 23.3% 9.0% 20.4% 34.8% 15.8% 9.6%

Data are expressed as median (interquartile range) or number (pecentage).

Female		Q1		Q2		Q3		Q4		Q5		Q6		Q7		Q8		Q9		Q10
Fatty liver index	1.5	(1.3-1.8)	2.5	(2.3-2.7)	3.4	(3.2-3.6)	4.6	(4.2-4.9)	6.1	(5.7-6.5)	8.3	(7.6-9.0)	11.8	(10.7-12.9)	17.4	(15.7-19.7)	29.2	(25.3-34.0)	59.8	(49.0-74.4)
Age, year	46	(43-50)	46	(43-51)	47	(44-51)	48	(44-52)	48	(44-53)	49	(45-53)	49	(45-54)	50	(46-54)	50	(46-54)	50	(46-54)
Body surface area, m ²	1.43	(1.37-1.48)	1.47	(1.42-1.53)	1.49	(1.43-1.55)	1.51	(1.45-1.56)	1.52	(1.47-1.58)	1.55	(1.49-1.61)	1.57	(1.51-1.63)	1.59	(1.52-1.66)	1.63	(1.56-1.71)	1.72	(1.64-1.81)
Body mass index, kg/m2	18.2	(17.3-19.1)	19.3	(18.4-20.3)	19.9	(19.0-20.8)	20.5	(19.5-21.6)	21.1	(20.0-22.2)	21.8	(20.7-23.0)	22.6	(21.3-23.9)	23.6	(22.2-24.9)	25.1	(23.7-26.6)	28.6	(26.5-31.3)
Height, em	158.2	(154.8-161.6)	158.7	(155.1-162.0)	158.4	(155.2-162.0)	158.1	(155.0-161.9)	158.3	(154.9-161.6)	158.5	(155.0-161.8)	158.3	(154.6-161.7)	1.58	(154.4-161.4)	157.9	(154.4-161.6)	157.4	(154.0-161.1)
Weight, kg	45.4	(42.6-48.4)	48.4	(45.7-51.5)	50	(47.1-53.1)	51.4	(48.3-54.6)	52.7	(49.6-56.0)	54.7	(51.3-58.4)	56.5	(52.8-60.4)	58.7	(54.4-62.8)	62.5	(57.8-67.2)	71	(64.9-78.1)
Waist circumference, cm	66.9	(64.0-69.4)	70.3	(67.7-73.0)	72.5	(70.0-75.0)	74.3	(71.5-77.0)	76	(73.5-79.3)	78.8	(75.8-82.0)	81	(77.5-84.0)	83.5	(80.0-86.6)	87	(83.3-90.5)	95	(89.6-100.4)
Creatinine, mg/dl	0.63	(0.58-0.70)	0.64	(0.59-0.70)	0.64	(0.59-0.70)	0.64	(0.59-0.70)	0.64	(0.58-0.70)	0.64	(0.59-0.70)	0.64	(0.59-0.70)	0.64	(0.59-0.70)	0.64	(0.58-0.70)	0.64	(0.58-0.70)
eGFR, ml/min/1.73m2	87.3	(83.1-90.8)	86.7	(82.4-90.3)	86.1	(82.1-89.9)	85.9	(81.3-89.6)	85.8	(81.3-89.9)	85.3	(80.8-89.1)	84.9	(80.9-89.0)	84.6	(80.5-88.5)	84.7	(80.5-89.0)	85.2	(80.9-88.9)
Fasting plasma glucose, mg/dl	88	(83-92)	89	(84-93)	89	(84-94)	89	(85-94)	90	(85-95)	91	(86-96)	92	(87-97)	93	(88-98)	94	(89-100)	97	(91-104)
Hemoglobin Al c, %	5.4	(5.2-5.6)	5.4	(5.2-5.6)	5.4	(5.2-5.6)	5.4	(5.2-5.6)	5.4	(5.2-5.6)	5.4	(5.2-5.6)	5.4	(5.3-5.6)	5.5	(5.3-5.7)	5.5	(5.3-5.7)	5.6	(5.4-5.8)
Low-density lipoprotein cholesterol, mg/dl	101	(86-118)	106	(89-124)	109	(93-127)	113	(96-132)	116	(98-135)	121	(101-139)	123	(105-144)	128	(109-147)	132	(111-153)	136	(115-158)
High-density lipoprotein cholesterol, mg/dl	78	(69-88)	76	(68-86)	75	(67-86)	73	(65-84)	72	(64-83)	71	(62-81)	69	(60-79)	66	(57-76)	62	(54-72)	57	(49-66)
Triglyceride, mg/dl	43	(36-52)	50	(42-60)	55	(45-67)	60	(49-73)	65	(53-81)	71	(57-88)	76	(61-98)	86	(68-110)	97	(76-127)	124	(94-166)
Systolic blood pressure, mmHg	104	(97-114)	106	(98-115)	106	(99-117)	109	(100-119)	110	(101-120)	112	(103-122)	114	(105-124)	116	(106-128)	120	(110-130)	126	(116-136)
Diastolic blood pressure, mmHg	63.67	(58-71)	65	(59-72)	65	(59-73)	67	(60-75)	68	(61-76)	69	(62-77)	70	(63-78)	72	(64-80)	74	(66-81)	78	(71-86)
Medication use																				
Lipid lowering drug (n)	28	1.3%	23	1.0%	46	2.1%	56	2.5%	68	3.1%	102	4.6%	136	6.2%	164	7.4%	206	9.3%	320	14.5%
Antihypertension drug (n)	28	1.3%	37	1.7%	46	2.1%	63	2.9%	72	3.3%	104	4.7%	136	6.2%	171	7.8%	251	11.4%	428	19.4%
Lifestyle																				
Current smoking (n)	49	2.2%	44	2.0%	63	2.9%	50	2.3%	63	2.9%	69	3.1%	73	3.3%	79	3.6%	96	4.4%	114	5.2%
Daily drinking (n)	161	7.4%	199	9.1%	211	9.6%	221	10.1%	227	10.4%	260	11.9%	257	11.8%	234	10.7%	245	11.2%	237	10.9%
10kg or more weight gain since age 20 (n)	16	0.8%	34	1.6%	77	3.6%	107	5.0%	228	10.7%	377	17.6%	566	26.3%	848	39.6%	1286	59.8%	1785	82.5%
30 minutes or more per day exercise (n)	300	13.9%	310	14.3%	323	14.9%	303	14.1%	321	14.9%	322	14.9%	302	13.9%	260	12.1%	260	12.0%	237	11.0%
Midnight eating (n)	578	27.0%	571	26.5%	579	27.0%	592	27.8%	600	28.2%	625	29,4%	602	28.0%	010	28,4%	698	32.7%	747	34.9%
Skipping breaklast (n)	214	10.0%	139	8.874	219	10.3%	1211	10.3%	1297	11.0%	1206	10.4%	1204	10.7%	1186	12.1%	288	13.5%	347	10.3%
Adequate steeping (ii)	1173	04.5%	1208	00	1181	00	1211	0.1	1220	05	1203	0(1203	07	1180	00	1151	00	1004	49.0%
Male		QI		Q2		Q5		Q4		Q5		QU		Q/		Q0		Q9		QIU
Male Fatty liver index	4.0	Q1 (3.0-4.8)	7.4	Q2 (6.6-8.3)	11.2	(10.2-12.2)	15.5	(14.3-16.7)	20.9	Q5 (19.4-22.4)	27.4	(25.6-29.4)	35.9	(33.6-38.2)	46.6	(43.6-49.8)	61.0	(57.0-65.3)	81.2	(75.4-88.3)
Male Fatty liver index Age. year	4.0	Q1 (3.0-4.8) (44-54)	7.4	Q2 (6.6-8.3) (45-54)	11.2 50	(10.2-12.2) (45-54)	15.5 50	(14.3-16.7) (46-55)	20.9	(19.4-22.4) (46-55)	27.4	(25.6-29.4) (46-55)	35.9	(33.6-38.2) (46-55)	46.6	(43.6-49.8) (46-55)	61.0	(57.0-65.3) (46-55)	81.2	(75.4-88.3) (46-54)
Male Fatty liver index Age, year Body surface area, m ²	4.0 49 1.67	Q1 (3.0-4.8) (44-54) (1.61-1.74)	7.4 49 1.72	(45-54) (1.66-1.79)	11.2 50 1.75	(10.2-12.2) (45-54) (1.69-1.82)	15.5 50 1.77	(14.3-16.7) (46-55) (1.7-1.84)	20.9 50 1.79	(19.4-22.4) (46-55) (1.72-1.86)	27.4 50 1.81	(25.6-29.4) (46-55) (1.74-1.88)	35.9 51 1.83	(33.6-38.2) (46-55) (1.75-1.9)	46.6 51 1.86	(43.6-49.8) (46-55) (1.78-1.93)	61.0 50 1.89	(57.0-65.3) (46-55) (1.81-1.97)	81.2 50 1.97	(75.4-88.3) (46-54) (1.88-2.07)
Male Fatty liver index Age, year Body surface area, m ² Body mass index, kg/m ²	4.0 49 1.67 19.8	Q1 (3.0-4.8) (44-54) (1.61-1.74) (18.8-20.8)	7.4 49 1.72 21.2	(45-54) (1.66-1.79) (20.2-22.1)	11.2 50 1.75 22.0	(10.2-12.2) (45-54) (1.69-1.82) (21.0-22.9)	15.5 50 1.77 22.6	(14.3-16.7) (46-55) (1.7-1.84) (21.5-23.6)	20.9 50 1.79 23.2	(19.4-22.4) (46-55) (1.72-1.86) (22.1-24.2)	27.4 50 1.81 23.7	(25.6-29.4) (46-55) (1.74-1.88) (22.6-24.9)	35.9 51 1.83 243	(33.6-38.2) (46-55) (1.75-1.9) (23.1-25.6)	46.6 51 1.86 25.1	(43.6-49.8) (46-55) (1.78-1.93) (23.7-26.4)	61.0 50 1.89 26.1	(57.0-65.3) (46-55) (1.81-1.97) (24.7-27.8)	81.2 50 1.97 28.8	(75.4-88.3) (46-54) (1.88-2.07) (26.7-31.1)
Male Fatty liver index Ag, yar Body usrice area, m ² Body musi index, kg/m ² Height.em	4.0 49 1.67 19.8 170.7	Q1 (3.0-4.8) (44-54) (1.61-1.74) (18.8-20.8) (166.8-174.5)	7.4 49 1.72 21.2 170.8	(45-54) (1.66-1.79) (20.2-22.1) (167.2-174.6)	50 1.75 22.0 171	(10.2-12.2) (45-54) (1.69-1.82) (21.0-22.9) (167.3-175)	15.5 50 1.77 22.6 170.9	(14.3-16.7) (46-55) (1.7-1.84) (21.5-23.6) (167-175)	20.9 50 1.79 23.2 171	(19.4-22.4) (46-55) (1.72-1.86) (22.1-24.2) (167.2-174.8)	27.4 50 1.81 23.7 170.9	(25.6-29.4) (46-55) (1.74-1.88) (22.6-24.9) (167.2-174.8)	35.9 51 1.83 24.3 170.8	(33.6-38.2) (46-55) (1.75-1.9) (23.1-25.6) (167.2-174.7)	46.6 51 1.86 25.1 171	(43.6-49.8) (46-55) (1.78-1.93) (23.7-26.4) (167.2-174.8)	61.0 50 1.89 26.1 171	(46-55) (1.81-1.97) (24.7-27.8) (167.3-175.2)	81.2 50 1.97 28.8 171.3	(15.4-88.3) (46-54) (1.88-2.07) (26.7-31.1) (167.2-175.2)
Male Fatty liver index Aes, yor Body surface area, m ² Body mus index, kg/m ² Height, m Weight, kg	4.0 49 1.67 19.8 170.7 57.7	Q1 (44-54) (1.61-1.74) (18.8-20.8) (166.8-174.5) (54-61.3)	7.4 49 1.72 21.2 170.8 61.8	Q2 (6.6-8.3) (45-54) (1.66-1.79) (20.2-22.1) (167.2-174.6) (58.1-65.3)	11.2 50 1.75 22.0 171 64.1	(10.2-12.2) (45-54) (1.69-1.82) (21.0-22.9) (167.3-175) (60.4-68)	15.5 50 1.77 22.6 170.9 65.7	(14.3-16.7) (46-55) (1.7-1.84) (21.5-23.6) (167-175) (62-69.8)	20.9 50 1.79 23.2 171 67.5	(19.4-22.4) (46-55) (1.72-1.86) (22.1-24.2) (167.2-174.8) (63.5-71.8)	27.4 50 1.81 23.7 170.9 69.1	(25.6-29.4) (46-55) (1.74-1.88) (22.6-24.9) (167.2-174.8) (65.1-73.4)	35.9 51 1.83 24.3 170.8 70.9	(33.6-38.2) (46-55) (1.75-1.9) (23.1-25.6) (167.2-174.7) (66.3-75.6)	46.6 51 1.86 25.1 171 73.3	(43.6-49.8) (46-55) (1.78-1.93) (23.7-26.4) (167.2-174.8) (68.4-78.3)	61.0 50 1.89 26.1 171 76.7	(46-55) (1.81-1.97) (24.7-27.8) (167.3-175.2) (71.1-82.4)	81.2 50 1.97 28.8 171.3 84.4	(75.4-88.3) (46-54) (1.88-2.07) (26.7-31.1) (167.2-175.2) (77.1-92.1)
Male Fatty, liver index Age, your Body surface area, n ² Body mass index, kg m ² Height, cm Weight, kg Weight, kg	4.0 49 1.67 19.8 170.7 57.7 72	Q1 (3.0-4.8) (1.61-1.74) (18.8-20.8) (166.8-174.5) (54-61.3) (69.5-75)	7.4 49 1.72 21.2 170.8 61.8 76.6	Q2 (6.6-8.3) (45-54) (1.66-1.79) (20.2-22.1) (167.2-174.6) (58.1-65.3) (74-79.3)	11.2 50 1.75 22.0 171 64.1 79	(10.2-12.2) (45-54) (1.69-1.82) (21.0-22.9) (167.3-175) (60.4-68) (76.4-82)	15.5 50 1.77 22.6 170.9 65.7 81	(14.3-16.7) (46-55) (1.7-1.84) (21.5-23.6) (167-175) (62-69.8) (78.3-84)	20.9 50 1.79 23.2 171 67.5 82.7	(19.4-22.4) (46-55) (1.72-1.86) (22.1-24.2) (167.2-174.8) (63.5-71.8) (79.9-85.4)	27.4 50 1.81 23.7 170.9 69.1 84	(25.6-29.4) (46-55) (1.74-1.88) (22.6-24.9) (167.2-174.8) (65.1-73.4) (81.4-87)	35.9 51 1.83 24.3 170.8 70.9 85.5	(33.6-38.2) (46-55) (1.75-1.9) (23.1-25.6) (167.2-174.7) (66.3-75.6) (82.6-89)	46.6 51 1.86 25.1 171 73.3 88	(43.6-49.8) (46-55) (1.78-1.93) (23.7-26.4) (167.2-174.8) (68.4-78.3) (84.5-91.6)	61.0 50 1.89 26.1 171 76.7 91	(46-55) (1.81-1.97) (24.7-27.8) (167.3-175.2) (71.1-82.4) (87-95)	81.2 50 1.97 28.8 171.3 84.4 97	(75.4-88.3) (46-54) (1.88-2.07) (26.7-31.1) (167.2-175.2) (77.1-92.1) (91.6-103)
Male Fatty liver index Açı, şırr Body sırında erası, m ² Body'ı ması index, açım ² Hoğit, ma Hoğit, da Weğith, İtg Wakit circumforres, em Creatinius, mpidl	4.0 49 1.67 19.8 170.7 57.7 72 0.87	Q1 (3.0-4.8) (44-54) (1.61-1.74) (18.8-20.8) (166.8-174.5) (54-61.3) (69.5-75) (0.8-0.94)	7.4 49 1.72 21.2 170.8 61.8 76.6 0.87	Q2 (6.6-8.3) (45-54) (1.66-1.79) (20.2-22.1) (167.2-174.6) (58.1-65.3) (74-79.3) (0.8-0.94)	11.2 50 1.75 22.0 171 64.1 79 0.87	(10.2-12.2) (45-54) (1.69-1.82) (21.0-22.9) (167.3-175) (60.4-68) (76.4-82) (0.8-0.94)	15.5 50 1.77 22.6 170.9 65.7 81 0.88	(14.3-16.7) (46-55) (1.7-1.84) (21.5-23.6) (167-175) (62-69.8) (78.3-84) (0.8-0.95)	20.9 50 1.79 23.2 171 67.5 82.7 0.88	(19.4-22.4) (46-55) (1.72-1.86) (22.1-24.2) (167.2-174.8) (63.5-71.8) (79.9-85.4) (0.8-0.95)	27.4 50 1.81 23.7 170.9 69.1 84 0.88	(25.6-29.4) (46-55) (1.74-1.88) (22.6-24.9) (167.2-174.8) (65.1-73.4) (81.4-87) (0.8-0.95)	35.9 51 1.83 24.3 170.8 70.9 85.5 0.88	(46-55) (1.75-1.9) (23.1-25.6) (167.2-174.7) (66.3-75.6) (82.6-89) (0.81-0.95)	46.6 51 1.86 25.1 171 73.3 88 0.88	(43.6-49.8) (46-55) (1.78-1.93) (23.7-26.4) (167.2-174.8) (68.4-78.3) (84.5-91.6) (0.8-0.95)	61.0 50 1.89 26.1 171 76.7 91 0.88	(46-55) (1.81-1.97) (24.7-27.8) (167.3-175.2) (71.1-82.4) (87-95) (0.8-0.95)	81.2 50 1.97 28.8 171.3 84.4 97 0.88	(75.4-88.3) (46-54) (1.88-2.07) (26.7-31.1) (167.2-175.2) (77.1-92.1) (91.6-103) (0.8-0.95)
Male Fatty liver index Age, year Body sums index, kg m ² Height, en Weight, kg Wake (trunnfrence, em Creatinite, mg/d) GPR, ml/min (7.3m2	4.0 49 1.67 19.8 170.7 57.7 72 0.87 82.2	Q1 (3.0-4.8) (44-54) (1.61-1.74) (18.8-20.8) (166.8-174.5) (54-61.3) (69.5-75) (0.8-0.94) (77.0-86.2)	7.4 49 1.72 21.2 170.8 61.8 76.6 0.87 81.7	(45-54) (1.66-1.79) (20.2-21.1) (167.2-174.6) (58.1-65.3) (74-79.3) (08-0.94) (76.5-85.9)	11.2 50 1.75 22.0 171 64.1 79 0.87 81.4	(10.2-12.2) (45-54) (1.69-1.82) (21.0-22.9) (167.3-175) (60.4-68) (76.4-82) (0.8-0.94) (76.3-85.9)	15.5 50 1.77 22.6 170.9 65.7 81 0.88 81.3	(46-55) (1.7-1.84) (21.5-23.6) (167-175) (62-69.8) (78.3-84) (0.8-0.95) (75.7-85.4)	20.9 50 1.79 23.2 171 67.5 82.7 0.88 81.0	(19.4-22.4) (46-55) (1.72-1.86) (22.1-24.2) (167.2-174.8) (63.5-71.8) (79.9-85.4) (0.8-0.95) (75.5-85.4)	27.4 50 1.81 23.7 170.9 69.1 84 0.88 80.8	(46-55) (1.74-1.88) (22.6-24.9) (167.2-174.8) (65.1-73.4) (81.4-87) (0.8-0.95) (75.3-85.0)	35.9 51 1.83 243 170.8 70.9 855 0.88 80.6	(46-55) (1.75-1.9) (23.1-25.6) (167.2-174.7) (66.3-75.6) (82.6-89) (0.81-0.95) (75.1-85.0)	46.6 51 1.86 25.1 171 73.3 88 0.88 80.7	(43.6-49.8) (46-55) (1.78-1.93) (23.7-26.4) (167.2-174.8) (68.4-78.3) (84.5-91.6) (0.8-0.95) (75.3-85.1)	61.0 50 1.89 26.1 171 76.7 91 0.88 80.7	(46-55) (181-1.97) (24.7-27.8) (167.3-175.2) (71.1-82.4) (87.95) (08-0.95) (75.1-85.1)	81.2 50 1.97 28.8 171.3 84.4 97 0.88 81.2	(75.4-88.3) (46-54) (1.88-2.07) (26.7-31.1) (167.2-175.2) (77.1-92.1) (91.6-103) (0.8-0.95) (75.3-85.6)
Male Fatty liver index Ags, yar Body sum index, kg/m² Height, cm Weight, kg Weight, kg Weight, kg Weight, kg Continue, mg/dl celfRe, ml/min/17m2 Fatting falsam glucose, mg/dl	4.0 49 1.67 19.8 170.7 57.7 72 0.87 82.2 92	Q1 (44-54) (161-1.74) (168-20.8) (166-8-1.74,5) (54-61.3) (695-75) (0.8-0.94) (77.0-86.2) (88-98)	7.4 49 1.72 21.2 170.8 61.8 76.6 0.87 81.7 94	(45-54) (45-54) (1.66-1.79) (20.2-2.1) (167.2-174.6) (58.1-65.3) (74-79.3) (08-0.94) (76.5-85.9) (89-99)	11.2 50 1.75 22.0 171 64.1 79 0.87 81.4 94	(10.2-12.2) (45-54) (1.69-1.82) (21.0-22.9) (167.3-175) (60.4-68) (76.4-82) (0.8-0.94) (76.1-85.9) (89-100)	15.5 50 1.77 22.6 170.9 65.7 81 0.88 81.3 95	(46-55) (1.7-1.84) (21.5-23.6) (167-175) (62-69.8) (78.3-84) (0.8-0.95) (75.7-85.4) (90-100)	20.9 50 1.79 23.2 171 67.5 82.7 0.88 81.0 95	(19.4-22.4) (46-55) (1.72-1.86) (22.1-242) (167.2-174.8) (63.5-71.8) (759-85.4) (0.8-0.95) (755-85.4) (90-101)	27.4 50 1.81 23.7 170.9 69.1 84 0.88 80.8 96	(25.6-29.4) (46-55) (1.74-1.88) (22.6-24.9) (1672-174.8) (65.1-73.4) (81.4-87) (0.8-0.95) (75.3-85.0) (91-102)	35.9 51 1.83 243 170.8 70.9 85.5 0.88 80.6 97	(46-55) (1.75-1.9) (23.1-25.6) (167.2-174.7) (663.75.6) (82.6-89) (0.81-0.95) (75.1-85.0) (91-103)	46.6 51 1.86 25.1 171 73.3 88 0.88 80.7 98	(46-55) (1.78-193) (23.7-26.4) (167.2-174.8) (68.4-78.3) (84.5-91.6) (0.8-0.95) (75.3-85.1) (92-103)	61.0 50 1.89 26.1 171 76.7 91 0.88 80.7 99	(46-55) (18-1-97) (24-7-27.8) (167.3-175.2) (71.1-82.4) (08-0.95) (75.1-85.1) (93-105)	81.2 50 1.97 28.8 171.3 84.4 97 0.88 81.2 100	(75.4-88.3) (46-54) (1.88-2.07) (26.7-31.1) (16.72-1752) (77.1-92.1) (01.6-103) (0.8-0.95) (75.3-85.6) (94-107)
M'ale Patty liver index Patty liver index Body sums index, kg/m ² Height, on Wight, kg Water (crounfremer, em Comminse, mg/d celler, ml/min/1.73m2 Paring flamang liteose, mg/dl Hemgolish n.d. 5 %	4.0 49 1.67 19.8 170.7 57.7 72 0.87 82.2 92 5.4	(3.0-4.8) (44-54) (1.61-1.74) (1.88-20.8) (166.8-174.5) (54-61.3) (69-5.75) (0.8-0.94) (77.0-86.2) (88-98) (52-5.5)	7.4 49 1.72 21.2 170.8 61.8 76.6 0.87 81.7 94 5.4	(45-54) (45-54) (1.66-1.79) (20.2-22.1) (167.2-174.6) (58.1-65.3) (74.79.3) (0.8-094) (76.5-85.9) (89-99) (5.2-5.6)	11.2 50 1.75 22.0 171 64.1 79 0.87 81.4 94 5.4	(10.2-12.2) (45-54) (1.69-1.82) (21.0-22.9) (167.3-175) (60.4-68) (76.4-82) (0.8-0.94) (76.3-85.9) (89-100) (52.5.6)	15.5 50 1.77 22.6 170.9 65.7 81 0.88 81.3 95 5.4	(14.3-16.7) (46-55) (1.7-1.84) (21.5-23.6) (167-1.75) (62-69.8) (78.3-84) (0.8-0.95) (75.7-85.4) (90-100) (52.5.6)	20.9 50 1.79 23.2 171 67.5 82.7 0.88 81.0 95 5.4	(19.4-22.4) (46-55) (1.72-1.86) (22.1-24.2) (167.2-174.8) (63.5-71.8) (79-98.54) (08-0.95) (755-85.4) (90-101) (52-3.6)	27.4 50 1.81 23.7 170.9 69.1 84 0.88 80.8 96 5.4	(25.6-29.4) (46-55) (1.74-1.88) (22.6-24.9) (167.2-174.8) (65.1-73.4) (65.1-73.4) (81.4-87) (0.8-0.95) (75.3-85.0) (91-102) (5.3-5.6)	35.9 51 1.83 243 170.8 70.9 85.5 0.88 80.6 97 5.5	(33.6-38.2) (46-55) (1.75-1.9) (23.1-25.6) (167.2-174.7) (66.3-75.6) (0.81-0.95) (75.1-85.0) (91-103) (5.3-5.7)	46.6 51 1.86 25.1 171 73.3 88 0.88 80.7 98 5.5	(43.6-49.8) (46-55) (1.78-193) (23.7-26.4) (167.2-174.8) (68.4-78.3) (68.4-78.3) (68.4-91.6) (0.8-0.95) (75.3-85.1) (92-103) (5.3-5.7)	61.0 50 1.89 26.1 171 76.7 91 0.88 80.7 99 5.5	(57.0-65.3) (46-55) (181-197) (24.7-27.8) (167.3-175.2) (71.1-82.4) (87-95) (08-0.95) (75.1-85.1) (93-105) (53-5.7)	81.2 50 1.97 28.8 171.3 84.4 97 0.88 81.2 100 5.6	(75.4-88.3) (46-54) (1.88-2.07) (26.7-31.1) (167.2-175.2) (77.1-92.1) (01.6-103) (0.8-0.95) (75.3-85.6) (94-107) (5.4-5.8)
Male Patry, liver index Age, you Body sums index, kam ² Hoight can body muss index, kam ² Hoight can Weight, kg Waith circumference, em Creatinies, mgld Gellt, mal/mait, 17:m2 Paining planear glicose, mg/dl Homoglibha Ade, %	4.0 49 1.67 19.8 170.7 57.7 72 0.87 82.2 92 5.4 107	(3.0-4.8) (44-54) (1.61-1.74) (1.82-20.8) (166.8-174.5) (54-61.3) (69.5-75) (0.8-0.94) (77.0-86.2) (88-98) (52-5.5) (92-124)	7.4 49 1.72 21.2 170.8 61.8 76.6 0.87 81.7 94 5.4 116	(45-54) (45-54) (1.66-1.79) (20.2-22.1) (167.2-174.6) (58.1-65.3) (74-79.3) (08-09.4) (76.5-85.9) (89-99) (5.2-5.6) (99-133)	11.2 50 1.75 22.0 171 64.1 79 0.87 81.4 94 5.4 120	(10.2-12.2) (45-54) (1.69-1.82) (21.0-22.9) (167.3-175) (60.4-68) (76.4-82) (0.8-0.94) (76.3-85.9) (89-100) (52.5.6) (103-138)	15.5 50 1.77 22.6 170.9 65.7 81 0.88 81.3 95 5.4 124	(14.3-16.7) (46-55) (1.7-1.84) (1.7-1.84) (1.5-2.3.6) (167-1.75) (62-69.8) (78.3-84) (0.8-0.95) (75.7-8.5.4) (90-100) (5.2-5.6) (107-142)	20.9 50 1.79 23.2 171 67.5 82.7 0.88 81.0 95 5.4 126	(19.4-22.4) (46-55) (1.72-1.86) (22.1-24.2) (167.2-174.8) (63.5-71.8) (759-85.4) (759-85.4) (755-85.4) (90-101) (52.5.6) (109-145)	27.4 50 1.81 23.7 170.9 69.1 84 0.88 80.8 96 5.4 129	(25.6-29.4) (46-55) (1.74-1.88) (22.6-24.9) (1672-174.8) (65.1-73.4) (81.4-87) (0.8-0.95) (75.3-85.0) (91-102) (5.3-5.6) (110-148)	35.9 51 1.83 243 170.8 70.9 85.5 0.88 80.6 97 5.5 131	(3.1-6-38.2) (46-55) (1.75-1.9) (3.1-25.6) (167.2-174.7) (66.3-75.6) (82.6-89) (0.81-0.95) (75.1-85.0) (91-103) (5.3-5.7) (112-151)	46.6 51 1.86 25.1 171 73.3 88 0.88 80.7 98 5.5 130	(43.6-49.8) (46-55) (1.78-193) (23.7-26.4) (167.2-174.8) (68.4-78.3) (68.4-78.3) (68.4-59.16) (0.8-0.95) (753-85.1) (02-103) (53.5.7) (111-150)	61.0 50 1.89 26.1 171 76.7 91 0.88 80.7 99 5.5 132	(57.0-65.3) (46-55) (181-197) (24.7-27.8) (1673-175.2) (71.1-82.4) (87.95) (0.8-095) (75.1-85.1) (93-105) (5.3-5.7) (112-152)	81.2 50 1.97 28.8 171.3 84.4 97 0.88 81.2 100 5.6 131	(75.4-88.3) (46-54) (1.88-2.07) (26.7-31.1) (167.2-175.2) (77.1-92.1) (91.6-103) (0.8-09.5) (75.3-85.6) (94-107) (5.4-5.8) (110-153)
Male Patty liver index Aqs.ym Body surface area.n ² Body muse index, kg/m ² Height, cn Weight, kg Waist circumference, cm Continium, cmg/dl Ceffk. mfm/m173m2 Parting plarma glicence, mg/dl Hamoglofinh Atz, Patty Law-density lipoprotein sholtestenol, mg/dl	4.0 49 1.67 19.8 170.7 57.7 72 0.87 82.2 92 5.4 107 70	(3.0-9.8) (44-54) (1.61-1.74) (1.88-20.8) (166.8-174.5) (54-61.3) (69.5-75) (0.8-0.94) (77.0-86.2) (88-98) (52-55) (52-55) (52-155) (52-15-5) (52-124) (61-80)	7.4 49 1.72 21.2 170.8 61.8 76.6 0.87 81.7 94 5.4 116 65	(45-54) (45-54) (166-1.79) (202-22.1) (1672-174.6) (58.165.3) (74-79.3) (08-0.94) (76.5-85.9) (89-99) (52-56) (89-133) (57-76)	11.2 50 1.75 22.0 171 64.1 79 0.87 81.4 94 5.4 120 62	(10.2-12.2) (45-54) (1.69-1.82) (21.0-22.9) (1.67.3-175) (60.4-68) (76.4-82) (0.8-0.94) (76.3-85.9) (89-100) (52-5.6) (103-138) (54-72)	15.5 50 1.77 22.6 170.9 65.7 81 0.88 81.3 95 5.4 124 60	(14.3-16.7) (46-55) (17.1.84) (21.5-23.6) (167-175) (62-69.8) (78.3.84) (08-0.95) (75.7-85.4) (90-100) (52-56) (107-142) (52-69)	20.9 50 1.79 23.2 171 67.5 82.7 0.88 81.0 95 5.4 126 58	(19.4-22.4) (46-55) (1.72-1.86) (2.1-24.2) (167.2-174.8) (63.5-71.8) (79.9-85.4) (08-0.95) (75.5-85.4) (09-101) (52-85.4) (09-101) (52.45) (109-145) (50-67)	27.4 50 1.81 23.7 170.9 69.1 84 0.88 80.8 96 5.4 129 56	(25.6-29.4) (46-55) (1.74-1.88) (22.6-24.9) (167.2-174.8) (65.1-73.4) (81.1-87) (0.8-0.95) (75.3-85.0) (91-102) (53.3-65) (110-148) (49.65)	35.9 51 1.83 243 170.8 70.9 855 0.88 80.6 97 55 131 55	(33.6-38.2) (46-53) (1.75-1.9) (23.1-25.6) (167.2-174.7) (663.75.6) (82.6-89) (0.81-0.95) (75.1-85.0) (91-103) (5.3-67) (112-151) (47-63)	46.6 51 1.86 25.1 171 73.3 88 0.88 80.7 98 5.5 130 53	(43.6-49.8) (46-53) (1.78-1.93) (23.7-26.4) (167.2-174.8) (684.5-91.6) (0.8-0.95) (75.3-85.1) (92-103) (5.3-65.7) (111-150) (46-61)	61.0 50 1.89 26.1 171 76.7 91 0.88 80.7 99 5.5 132 51	(57.0-65.3) (46-55) (181-1.97) (24.7-27.8) (167.3-175.2) (71.1-82.4) (87-95) (08-0.95) (75.1-85.1) (93-105) (53-57) (112-152) (112-152) (44-58)	81.2 50 1.97 28.8 171.3 84.4 97 0.88 81.2 100 5.6 131 48	(75.4-88.3) (46-54) (1.88-2.07) (26.7-31.1) (167.2-175.2) (77.1-92.1) (91.6-103) (0.8-0.95) (75.3-85.6) (94-107) (5.4-55) (42.56)
M'ale Patty liver index Age, you Body sure index, stan ² Body mass index, stan ² Height, en Weight, kg Waist circumference, en Creatinice, mpfdl Geff, mc/mai/173m2 Paring parang ikonse, mg/dl Henroghkin AC, Sk Law-density lipoprotein chalesterol, mg/dl High-density lipoprotein chalesterol, mg/dl	4.0 49 1.67 19.8 170.7 57.7 72 0.87 82.2 92 5.4 107 70 53	(3.0-4.8) (44-54) (1.61-1.74) (1.8-20.8) (166.8-174.5) (54-61.3) (69-5-75) (0.8-0.94) (77.0-86.2) (88-98) (5.2-5.5) (92-124) (61.80) (43-65)	7.4 49 1.72 21.2 170.8 61.8 76.6 0.87 81.7 94 5.4 116 65 65	(22 (6.6-8.3) (45-54) (1.66-1.79) (20-22.11) (167.2-174.6) (58.1-65.3) (74-79.3) (08-09.4) (76.5-85.9) (89-99) (52-5.6) (99-133) (57-76) (53-81)	11.2 50 1.75 22.0 171 64.1 79 0.87 81.4 94 5.4 120 62 74	(10.2-12.2) (45.54) (1.69-1.82) (21.0-22.9) (167.3-175) (60.4-82) (0.8-0.94) (76.3-85.9) (89-100) (52.5.6) (103-138) (54-72) (54-72) (60-93)	15.5 50 1.77 22.6 170.9 65.7 81 0.88 81.3 95 5.4 124 60 83	(14.3-16.7) (46-55) (17-1.84) (21.5-23.6) (167-175) (62-69.8) (78.3-84) (08-0.95) (75.7-85.4) (090-100) (52.5.6) (107.142) (52-69) (67-105)	20.9 50 1.79 23.2 171 67.5 82.7 0.88 81.0 95 5.4 126 58 93	(19.4-22.4) (46-5) (1.72-1.86) (22.1-24-2) (1672-174.8) (63.5-71.8) (799-85.4) (08-095) (755-85.4) (09-101) (52-5.6) (109-145) (50-67) (74-119)	27.4 50 1.81 23.7 170.9 69.1 84 0.88 80.8 96 5.4 129 56 104	(25.6-29.4) (46-55) (1.74-1.88) (22.6-24.9) (167.2-174.8) (65.1-73.4) (81.4-87) (0.8-0.95) (75.3-85.0) (91-102) (5.3-5.6) (110-148) (110-148) (49.65) (83-113)	35.9 51 1.83 243 170.8 70.9 85.5 0.88 80.6 97 5.5 131 55 116	(33.6-38.2) (46-55) (1.75-1.9) (23.1-25.6) (167.2-174.7) (663.75.6) (82.6-89) (08.1-0.95) (75.1-85.0) (91-103) (53.5.7) (112-151) (112-151) (47-63) (91-150)	46.6 51 1.86 25.1 171 73.3 88 0.88 80.7 98 5.5 130 5.5 130 5.3 131	(43.6-49.8) (46-55) (1.78-193) (23.7-26.4) (167.2-174.8) (68.4-591.6) (08.0-95) (75.3-85.1) (92-103) (5.3-5.7) (111-150) (46-61) (101-174)	61.0 50 1.89 26.1 171 76.7 91 0.88 80.7 99 5.5 132 51 152	(57.0-65.3) (46-55) (181-197) (24-727.8) (1673-175.2) (71.1-82.4) (87-95) (0.8-095) (75.1-85.1) (93-105) (53-65) (12-152) (112-152) (44-58) (115-203)	81.2 50 1.97 28.8 171.3 84.4 97 0.88 81.2 100 5.6 131 48 185	(75.4-88.3) (46-54) (1.88-2.07) (26.73.1.1) (167.2-175.2) (07.1-92.1) (01.6-103) (0.8-095) (75.3-85.6) (04-107) (54-58.5) (110-153) (42-56) (115-264)
Male Fatty liver index Age, yer Body sums index, kg/m² Height, cm Weight, kg Weight,	4.0 49 1.67 19.8 170.7 57.7 72 0.87 82.2 92 5.4 107 70 53 112	(3.0-4.8) (44-54) (1.61-1.74) (1.88-20.8) (1.66-1.74.5) (54-61.3) (695-75) (0.8-0.94) (77.0-86.2) (88-98) (52-5.5) (92-124) (61-80) (43-65) (103-121)	7.4 49 1.72 21.2 170.8 61.8 76.6 0.87 81.7 94 5.4 116 65 65 115	(1.6-6-8.3) (45-54) (1.6-6-1.79) (20.2-22.1) (167.2-174.6) (58.1-63.3) (74-79.3) (0.8-0.94) (76.5-85.9) (89-99) (5.2-5.6) (99-133) (52-5.6) (53-81) (53-81) (107-125)	11.2 50 1.75 22.0 171 64.1 79 0.87 81.4 94 5.4 120 62 74 117	(10.2-12.2) (45.54) (1.69-1.82) (21.0-22.9) (167.3-175) (60.4-82) (08.40.94) (76.4-82) (08.40.94) (76.4-82) (08.40.94) (76.3-85.9) (89-100) (52.5-6) (103.1138) (54.72) (60.93) (108.8-127)	15.5 50 1.77 22.6 170.9 65.7 81 0.88 81.3 95 5.4 124 60 83 118	(14.3-16.7) (46-55) (1.7-1.84) (21.5-23.6) (167-175) (62-69.8) (78.3-84) (08-0.95) (75.7-85.4) (90-100) (52-5.6) (107-142) (52-69) (67-105) (67-105)	20.9 50 1.79 23.2 171 67.5 82.7 0.88 81.0 95 5.4 126 58 93 120	(19.4-22.4) (46-5) (1.72-1.86) (22.1-24.2) (1672-174.8) (63.5-71.8) (79.9-85.4) (08-0.95) (75-58.54) (09-101) (52-3.6) (109-145) (50-67) (74-119) (111-130)	27.4 50 1.81 23.7 170.9 69.1 84 0.88 80.8 96 5.4 129 56 104 121.5	(25.6-29.4) (46-55) (1.74-1.88) (22.6-24.9) (1672-174.8) (65.1-73.4) (81.4-87) (0.8-0.95) (75.3-85.0) (91-102) (5.3-5.6) (110-1.48) (49.65) (83-1.13) (112-130)	35.9 51 1.83 243 170.8 70.9 85.5 0.88 80.6 97 5.5 131 55 116 122	(33.6-38.2) (46-55) (1.75-1.9) (23.1-25.6) (167.2-174.7) (82.6-89) (08.1-0.95) (75.1-85.0) (91-103) (5.3-5.7) (112-151) (12-151) (47-63) (91-130)	46.6 51 1.86 25.1 73.3 88 0.88 80.7 98 5.5 130 53 131 124	(43.6-49.8) (46-55) (1.78-1.93) (23.7-26.4) (167.2-174.8) (68.4-78.3) (84.5-91.6) (08.40.95) (75.3-85.1) (02-103) (22-103) (22-103) (5.3-5.7) (111-150) (46-61) (101-174) (115-134)	61.0 50 1.89 26.1 171 76.7 91 0.88 80.7 99 5.5 132 51 152 126	(57.0-65.3) (46-55) (181-197) (24.7-27.8) (1673-175.2) (71.1-82.4) (87.95) (08-0.95) (75.1-85.1) (93-105) (53-5.7) (112-152) (143-58) (115-203) (117-135)	81.2 50 1.97 28.8 171.3 84.4 97 0.88 81.2 100 5.6 131 48 185 129	(75.4-88.3) (46-54) (1.88-2.07) (26.7-31.1) (167.2-1752) (01.6-103) (08.095) (75.3-85.6) (94-107) (5.4-5.8) (110-153) (42-6) (135-264) (121-139)
M'ale Patty liver index Age, year Body sums index, kg m ² Height, en Weght, kg Water (iroumference, end Cecumine, eng, ull Passing planse, glicose, engill Hempolphin ALC, bM Law-density lipoprotein chalterator, ling/dl High-density lipoprotein chalterator, ling/dl High-density lipoprotein chalterator, ling/dl High-density lipoprotein chalterator, ling/dl Systelic lisodop ressure, multy Davale libodop ressure, multy	4.0 49 1.67 19.8 170.7 57.7 72 0.87 82.2 92 5.4 107 70 53 112 70	(3.0-4.8) (44-54) (1.61-1.74) (1.68-1.74.5) (166.8-1.74.5) (0.8-0.94) (77.0-86.2) (88-08) (5.2-6.5) (92-1.24) (61-80) (43-65) (103-121) (64-7.8)	7.4 49 1.72 21.2 170.8 61.8 76.6 0.87 81.7 94 5.4 116 65 65 115 72	(22 (6.6-83) (45-54) (1.66-1.79) (20.22.1) (1672-174.6) (58.1-65.3) (74-79.3) (1672-174.6) (58.1-65.3) (74-79.3) (167-24.74.6) (167-24.74.6) (165-88.9) (162-84.74.74.74.74.74.74.74.74.74.74.74.74.74	11.2 50 1.75 22.0 171 64.1 79 0.87 81.4 94 5.4 120 62 74 117 73	(10.2-12.2) (45-54) (169-182) (210-22.9) (1673-175) (60.4-68) (76.4-82) (0.8-0.94) (76.3-85.9) (89-100) (52-56) (103-138) (54-72) (60-93) (108.5-127) (67-81.5)	15.5 50 1.77 22.6 65.7 81 0.88 81.3 95 5.4 124 60 83 118 75	(14.3-16.7) (46-55) (1.7-1.84) (21.5-23.6) (167-175) (62-69.8) (78.3-84) (08-0.95) (75.7-85.4) (90-100) (52-56) (107-142) (52-69) (67-105) (110-128) (68-83)	20.9 50 1.79 23.2 171 67.5 82.7 0.88 81.0 95 5.4 126 58 93 120 76	(19.4-22.4) (46-55) (1.72-1.86) (22.1-24.2) (167-2-17.8) (63-5-71.8) (75-885.4) (90-101) (52-56) (75-685.4) (90-101) (52-56) (190-145) (50-67) (74-119) (111-130) (69-84)	27.4 50 1.81 23.7 170.9 69.1 84 0.88 80.8 80.8 5.4 129 56 104 121.5 77	(25.6-29.4) (46-55) (1.74-1.88) (22.6-24.9) (1672-174.8) (65.1-73.4) (81.487) (0.8-0.95) (75.3-85.0) (91-102) (5385.0) (91-102) (7585.0) (75	35.9 51 1.83 243 170.8 70.9 85.5 0.88 80.6 97 5.5 131 55 116 122 78	(43.6-38.2) (46-55) (1.75-1.9) (23.125.6) (167.2-174.7) (66.3-75.6) (82.6-89) (0.81-0.95) (75.1.85.0) (91-103) (15.3-85.0) (91-103) (13.5-7) (112-151) (47.63) (91-150) (113-132) (71-86)	46.6 51 1.86 25.1 73.3 88 0.88 80.7 98 5.5 130 53 131 124 80	(43.6-49.8) (46-55) (1.78-193) (23.7-26.4) (167.2-174.8) (68.4-78.3) (84.5-91.6) (0.8-0.95) (75.3-85.1) (92-103) (22-103) (23.5-7) (111-150) (46-61) (101-174) (115-134) (73.88)	61.0 50 1.89 26.1 171 76.7 91 0.88 80.7 99 5.5 132 51 152 126 81	(57.0-65.3) (46-55) (181-197) (247-27.8) (1673-175.2) (71.1-82.4) (87-95) (028-095) (75.1-85.1) (92-105) (53-57) (112-152) (44-58) (115-203) (117-135) (74-88)	81.2 50 1.97 28.8 171.3 84.4 97 0.88 81.2 100 5.6 131 48 185 129 84	(75.4-88.3) (46-54) (1.88-2.07) (26.7-31.1) (167.2-175.2) (77.1-92.1) (91.6-103) (0.8-0.95) (75.3-85.6) (94-107) (5.4-5.8) (110-153) (42-56) (13.5-264) (13.5-264) (121-139) (77.91)
Male Patry, liver index Age, yar Body strainer, kg ^m ? Height, or Weight, kg Weight, kg Weight, kg Weight, kg Gellt, m/min1/37m2 Parting planse glicose, mg/dl Hamoglobh Ad ₂ , % Law-dansity lipopotein cholesterol, mg/dl High-density lipopotein cholesterol, mg/dl Tight-density lipopotein cholesterol, mg/dl Systolic blood pressure, mmlg Databile lood gressure, mmlg	4.0 49 1.67 19.8 170.7 57.7 72 0.87 82.2 92 5.4 107 70 53 112 70	(1, (3, 0, -4, 8)) (44, 54) (1, 61-1, 74) (1, 88-20, 8) (16, 68, 71, 75) (54, 64, 13) (69, 5-75) (0, 84, 94) (52, 55) (62, 124) (61, 80) (43, 45) (10, 121) (64-78)	7.4 49 1.72 21.2 170.8 61.8 76.6 0.87 81.7 94 5.4 116 65 65 115 72	(45-54) (145-54) (145-1.79) (20.2-22.1) (167.2-174.6) (58.1-65.3) (74-79.3) (08-0.94) (75-58.59) (89-99) (52.5.6) (99-133) (57.76) (51.81) (107-125) (66-80)	11.2 50 1.75 22.0 171 64.1 79 81.4 94 5.4 120 62 74 117 73	(45-54) (45-54) (1.62-1.82) (21.0-22.9) (167.3-175) (60.4-85) (76.4-82) (08-0.94) (76.3-85.9) (89-100) (52-5.6) (101.318) (52-7.2) (60-93) (108.5-127) (67-81.5)	15.5 50 1.77 22.6 170.9 65.7 81 0.88 81.3 95 5.4 124 60 83 118 75	(46-55) (1.7-1.84) (21.5-23.6) (1.67-1.75) (62-69.8) (78.3-84) (08-6.95) (75.7-85.4) (90-100) (52-5.6) (107-142) (52-69) (65-105) (110-128) (68-83)	20.9 50 1.79 23.2 171 67.5 82.7 0.88 81.0 95 5.4 126 58 93 120 76	(19.4-22.4) (46-55) (1.72-1.86) (22.1-242) (1672-174.8) (615-271.8) (79.9-85.4) (03-0.95) (75-58.54) (79-101) (52-65) (190-145) (50-67) (74-119) (111-130) (69-84)	27.4 50 1.81 23.7 170.9 69.1 84 0.88 80.8 96 5.4 129 56 104 121.5 77	(25,6-29.4) (46-55) (1.74-1.88) (22,6-24.9) (1672-174.8) (85,1-73.4) (85,1-73.4) (85,1-73.4) (85,1-73.4) (85,1-73.4) (85,1-73.4) (91-102) (53,3-55) (110-148) (110-148) (112-139) (120-15) (120-	35.9 51 1.83 243 170.8 70.9 85.5 0.88 80.6 97 5.5 131 55 116 122 78	(33,6-38.2) (46-5) (175-19) (23,1-256) (167-2174) (66-37-56) (82,6-89) (83,1-55) (75,1-850) (91-103) (33,57) (112-151) (113-132) (113-132) (113-132) (113-132)	46.6 51 1.86 25.1 171 73.3 88 0.88 80.7 98 5.5 130 53 131 124 80	(43,6-49.8) (43,6-49.8) (46-5) (178-193) (23.7264) (1672-174.8) (64-478.3) (84-59.6) (08-0.95) (753-85.1) (21-0.3) (53-85.1) (111-150) (101-174) (101-174) (151-314) (73-88)	61.0 50 1.89 26.1 171 76.7 91 0.88 80.7 99 5.5 132 51 152 126 81	(46-55) ((8-16-53) ((8-16-75) ((8-16-75)) ((11-17) (24-7278) ((11-17) (24-7278) ((11-17) (24-7278) ((11-17) (0-17) (0-17) (11-18) ((11-12) ((11-12)) ((11-13)) ((11-13)) (74-88)	81.2 50 1.97 28.8 171.3 84.4 97 0.88 81.2 100 5.6 131 48 185 129 84	(46-54) (46-54) (1.88-2.07) (26.7.3.1.1) (167.2-175.2) (77.1-92.1) (91.6-103) (08-0.95) (75.3-85.6) (94-107) (54-3.8) (110-153) (42-56) (115-264) (121-139) (77-91)
Male Patty liver index Paty fur index Paty fur index, kg m ² Body mass index, kg m ² Height, on Water (counderson, on Grantine, mg/d eGPE, ml min/137m2 Faring flams, filcoset, mg/d Height, far, fillowing fillowing Height, fillowing fillowing Fighterson (hospital) Systelic blood pressure, multy Batachel kodo pressure, multy Enderson use Lipfol overging furg (n)	4.0 49 1.67 19.8 170.7 57.7 72 0.87 82.2 92 5.4 107 70 53 112 70 80	(3.0-4.8) (44-54) (1.61-1.74) (1.61-1.74) (1.68.2-174.5) (54-61.3) (69.5-75) (69.8-94) (77.0-86.2) (88-98) (60.8-94) (70.8-62.2) (88-98) (70.8-62.2) (88-98) (70.8-62.2) (88-98) (70.8-62.2) (88-98) (70.8-62.2) (88-98) (70.8-62.2) (88-98) (70.8-62.2) (88-98) (70.8-62.2) (88-98) (70.8-62.2) (80.8	7.4 49 1.72 212 1708 618 766 618 766 618 766 618 70 94 5.4 116 65 65 115 72 134	22 (65-84) (16-8-179) (20-221) (16-2-174.6) (38-145.3) (74-73) (98-94) (76-5-85.9) (98-94) (98-94) (98-133) (97-76) (33-81) (107-125) (96-80) (107-125) (96-80) (107-125)	11.2 50 1.75 22.0 171 64.1 79 0.87 81.4 94 5.4 120 62 74 117 73	(45.54) (16.2-12.2) (45.54) (1.6-7.12) (10.7-1.75) (60.4-68) (16.3-175) (60.8-0.94) (76.3-85.9) (83-100) (52.56) (10.3-138) (44.72) (40.8-1127) (60.8-1127) (60.8-1127) (60.8-1127) (60.8-1127)	15.5 50 1.77 22.6 170.9 65.7 81 0.88 81.3 95 5.4 124 60 83 118 75 219	(14.3-16.7) (46-5) (17.184) (15-23.6) (167-175) (62-058) (15.7.85.4) (06.005) (15.7.85.4) (06.005) (15.7.85.4) (06.005) (10.123) (05.405) (10.123) (08.43)	20.9 50 1.79 23.2 171 67.5 82.7 0.88 81.0 95 5.4 126 58 93 120 76	(19.4-22.4) (19.4-22.4) (19.4-22.4) (19.4-22.4) (19.4-2)	27.4 50 1.81 23.7 170.9 69.1 84 0.88 80.8 96 5.4 1219 56 104 121.5 77 310	(4-5) (4-5) (1,7-1,88) (22,6-29) (1,7-1,88) (22,6-29) (1,7-1,7-1,88) (22,6-29) (1,7-2,1-7,8) (0,8-0,95) (1,7-3,9) (0,8-0,95) (1,1-1,48) (1,1-1,	35.9 51 1.83 24.3 170.8 70.9 85.5 0.88 80.6 97 5.5 131 55 116 122 78 325	(7) (33,6-38,2) (46-53) (175-19) (33,1-256) (1672-1747) (66,3-75.6) (22,6-49) (23,1-357) (23,1-85.9) (21,1-85.9) (21,1-85.9) (21,2-15.1) (46.6 51 1.86 25.1 171 73.3 88 0.88 80.7 98 5.5 130 53 131 124 80 450	(43,6-49,8) (43,6-49,8) (48-5) (1,76-1,93) (23,7-264) (10,72-1748) (08,4-93) (08,4-95) (08,4-95) (08,4-95) (08,4-95) (08,4-95) (08,4-95) (08,4-95) (08,4-95) (08,4-95) (11,150	61.0 50 1.89 26.1 171 76.7 91 0.88 80.7 99 5.5 132 51 152 126 81 529	(57,0-65,3) (64-5) (1.81-197) (24-728) (1.11-197) (24-728) (1.11-197) (24-728) (1.11-197) (24-728) (1.11-197) (24-80) (1.12-197) (1.	81.2 50 1.97 28.8 171.3 84.4 97 0.88 81.2 100 5.6 131 48 185 129 84 662	(75,4-88,3) (46-54) (1,88-207) (26,73(1,1) (1672-1752) (77,1-92,1) (16,72-1752) (77,1-92,1) (16,72-1752) (77,1-92,1) (16,73-1752) (17,73-1752) (17,7
Male Party, liver index Age, your Body struct ence, the Body mass index, kg m ² Height, en Weight, kg Weight, kg Weight, kg Weight, kg Body, ence (ERL, ne) (mar), 23m2 Parting planna glucose, eng/al Hemoglobin Ale, % Lewo-dasnity lipoprotein cholesterol, eng/al High-dentity. Jipoprotein cholesterol, eng/al High-dentity. Jipoprotein cholesterol, eng/al Bigh-dentity. Jipoprotein cholesterol, eng/al Bigh-dentity. Jipoprotein cholesterol, eng/al Bigh-dentity. Jipoprotein cholesterol, eng/al Bigh-dentity. Bight Big	4.0 49 1.67 19.8 170.7 57.7 52 0.87 62 5.4 107 70 5.3 112 70 80 103	(4.4.4) (4.4.4) (1.6.1-1.7a) (18.8-208) (16.8.7.14.5) (16.8.7.14.5) (16.8.7.14.5) (16.8.7.14.5) (16.8.7.14.5) (16.8.7.14.5) (10.7.12.1) (10.7.12.1) (10.7.14.5) (10.7.12.1) (10.7.14.5) (1	7.4 49 1.72 212 170.8 61.8 76.6 0.87 81.7 94 5.4 116 65 65 115 72 134	22 (6.5-8.3) (6.5-84) (1.66-1.79) (20.2-21.1) (20.2-21	11.2 50 1.75 22.0 171 64.1 79 0.87 81.4 94 5.4 120 62 74 117 73 146 216	(45-54) (10.2-12.2) (10.2-12.9) (167-34.75) (0.4-43) (16-4-32) (0.4-43) (16-4-32) (0.4-43) (10-13) (10	15.5 50 1.77 22.6 170.9 65.7 81 0.88 81.3 95 5.4 124 60 83 118 75 219 296	(46-55) (14.3-16.7) (21.5-23.6) (15-7.184) (21.5-23.6) (15-7.175) (22.5-28.4) (08-0.09) (22.5.6) (107.142) (22.64) (07.105) (110.123) (08-83) (88-83) (88-83)	20.9 50 1.79 23.2 171 67.5 82.7 0.88 81.0 95 5.4 126 58 93 120 76 227 332	(46-55) (1.72-146) (2.21-24.2) (1.67-21-74.8) (2.21-24.2) (1.67-21-74.8) (2.21-24.2) (1.67-21-74.8) (2.21-24.2) (1.67-21-74.8) (2.21-24.2)	27.4 50 1.81 23.7 170.9 69.1 84 0.88 80.8 96 5.4 129 5.6 104 121.5 77 310 412	(46-55) (1.74-188) (22-6-24) (1672-174.8) (05.1-73.4) (81.4-87) (08.4-95) (153-85.6) (110-148) (49-65) (49-65) (112-130) (112-130) (112-130) (12-130) (12-130) (12-130) (112-130	35.9 51 1.83 243 170.8 70.9 855 0.88 80.6 97 55 131 55 116 122 78 325 523	(46-55) (46-55) (1.75-19) (2.31-256) (2.31-256) (2.24-87) (0.81-0.95) (2.24-87) (0.81-0.95) (2.24-87) (0.81-0.95) (2.24-87) (0.1-0.95) (2.24-87) (0.1-0.95) (1.24-15) (1.1-0.95)	46.6 51 1.86 25.1 1711 73.3 88 80.7 98 5.5 130 53 131 124 80 641	(46-55) (1.78-193) (2.37-264) (1.67-21.74.8) (0.87-23.7) (0.87-23.7) (0.87-23.7) (0.87-23.7) (0.87-23.7) (0.87-23.7) (0.27-23.7) (1.11.130) (0.27-23.7) (1.11.130) (0.27-23.7) (1.11.130) (0.27-23.7) (1.11.130) (0.27-23.7) (1.11.130) (1.11.131)	61.0 50 1.89 26.1 171 76.7 91 0.88 80.7 99 5.5 132 5.1 152 126 81 529 778	(46-55) (46-55) (1.81-197) (247-27.8) (1673-175.2) (173-182.4) (87-95) (0.8-0.95) (753-185.1) (0.8-0.95) (753-185.1) (0.8-0.95) (123-125) (112-125	81.2 50 1.97 28.8 171.3 84.4 97 0.88 81.2 100 5.6 131 48 185 129 84 84 662 2043	(46-54) (46-54) (1.88-267) (26-73-11,1) (167-24-75-23) (77-3-921) (0.8-093)
Male Patty liver index Aqs.ym Body musi index, kg in ² Body musi index, kg in ² Height, co Water connectors, con Committee, cond eGR, eutomich, 23m2 Fasting phaneg livenes, engill Homoglohn A.C. Homoglohn A.C. High-dansity lipoprotein cholesteed, mgidl High-dansity lipoprotein cholesteed, mgidl Triglycredin Jong Disorder Spectra (Spectra (Spect	4.0 49 1.67 19.8 57.7 72 0.87 82.2 92 5.4 107 70 5.3 112 70 80 80 80 80	(3.0-4.8) (44-54) (1.61-1.74) (1.63-2.174) (1.65.2-1745) (54-61.3) (695-75) (54-61.3) (695-75) (65.4-55) (62-65) (62-65) (62-65) (62-65) (62-65) (101-121) (64-78) 2.2% 2.2%	7.4 49 1.72 212 170.8 61.8 76.6 0.87 81.7 94 5.4 116 65 65 115 72 134 158	(45-54) (45-54) (166-179) (20-22,1) (1672-1746) (58.1453) (147-93) (1672-1746) (58.1453) (147-93) (167-137) (165-184) (167-137) (165-184) (167-137) (165-184) (167-137) (165-184) (167-137	11.2 50 1.75 22.0 171 64.1 79 0.87 81.4 94 5.4 120 62 74 117 73 146 216	(45-54) (10.2-12.2) (10.2-12.3) (1.67-18.2) (10.7-3.75) (0.7-4.75) (0.7-4.75) (0.7-4.75) (0.7-4.75) (0.7-1.75)	15.5 50 1.77 22.6 170.9 65.7 81 0.88 81.3 95 5.4 124 60 83 118 75 219 296	(4,4,3-16,7) (46-55) (1,7-1,8) (2,15-23,6) (167-173) (2,15-23,6) (167-173) (2,15-23,6) (167-173) (2,15-23,6) (167-173) (2,15-23,6) (2,15-2	20.9 50 1.79 23.2 171 67.5 82.7 0.88 81.0 95 5.4 126 58 93 120 76 227 332	(40,4722,4) (40,453) (1,72148) (2,21242) (1672-1748) (63,2718) (199-854) (199-854) (199-854) (199-854) (199-854) (199-854) (199-145) (199-145) (199-145) (199-145) (199-145) (111-130) (11	27.4 50 1.81 23.7 170.9 69.1 84 0.88 80.8 96 5.4 129 56 104 121.5 77 310 412	(25,6-29,4) (46-55) (1,74-188) (22,6-24) (1672-174,8) (651-73,4) (81,487) (08,495) (08,495) (08,495) (08,495) (110-148) (110-1	35.9 51 1.83 243 170.8 70.9 55 55 10.8 80.6 97 55 131 55 116 122 78 325 325 325	(33,6-38.2) (45-5) (1.75-1.9) (23,1-25.6) (167-2-174.7) (66,2-75.6) (82,6-89) (167-2-174.7) (65,2-75.6) (82,6-89) (167-2-174.7) (162-151) (113-132	46.6 51 1.86 25.1 1711 73.3 88 80.7 98 5.5 130 53 131 124 80 641	(43,6-49.8) (44,5-5) (1.78-1.93) (23,7-26,4) (1672-174,8) (64,4-78,3) (64,4-78,3) (64,4-78,3) (64,4-78,3) (64,4-78,3) (11,1-159) (11	61.0 50 1.89 26.1 171 76.7 91 0.88 80.7 99 5.5 132 55 132 26 81 266 81 529 778	(46-55) (151-16-55.3) (151-167) (247-278) (1673-1752) (171-1824) (87-35) (05-055) (0	81.2 50 1.97 28.8 171.3 84.4 97 0.88 81.2 100 5.6 131 48 185 129 84 662 2043	(46-54) (46-54) (1.88-2.07) (2.67-31.1) (1.672-1872) (77.1-92.1) (1.672-1872) (1.67
Male Party liver index Age, your Body sums index, kg m ² Body mass index, kg m ² Body mass index, kg m ² Body mass index, kg m ² What claumformer, cm Continue, mgld Gelf, maly mass index, mgld Body Body Body Body Body br>Body Body Body Body Body Body Body Body Body Body Body Body	4.0 49 1.67 19.8 170.7 72 0.87 82.2 92 5.4 107 70 5.3 112 70 80 103	(3.0-4.8) (44-34) (1.61-174) (188-20.8) (166-8-174.5) (288-08) (095-75) (095-75) (09	7.4 49 1.72 212 170.8 61.8 76.6 0.87 94 5.4 116 65 5.5 72 134 158 555	Q2 (6.5-8.3) (6.5-8.4) (1.66-1.79) (02-22.1) (1672-174.6) (03-24.74.6) (03-24.74.6) (03-24.74.6) (03-24.74.6) (03-24.74.6) (05-43.9) (09-49.9) (03-24.75.6) (05-43.9)	11.2 50 1.75 22.0 171 64.1 79 0.87 81.4 94 5.4 120 62 74 117 73 146 216 623	(45-4) (10.2-12.2) (45-4) (1.6-22.9) (1.6-22.9) (1.6-22.9) (1.6-23	15.5 50 1.77 22.6 170.9 65.7 81 0.88 81.3 95 5.4 124 60 83 118 75 219 296 646	(44.3) (44.3) (15-24.6) (15-24.6) (15-24.6) (15-24.6) (15-24.6) (15-24.6) (16-24.8) (16-24.8) (16-24.8) (16-24.8) (10-14.2) (1	20.9 50 1.79 23.2 171 67.5 82.7 0.88 81.0 95 5.4 126 58 93 120 76 227 332 207 332 701	(46-55) (1.72-148) (22.1-24.2) (1672-174.8) (22.1-24.2) (1672-174.8) (23.1-24.2) (1672-174.8) (23.1-24.2) (23.1-24	27.4 50 1.81 23.7 170.9 69.1 84 0.88 80.8 96 5.4 129 56 104 121.5 77 310 412 762	(46-55) (1,74-185) (2,2-5-29) (1672-174,8) (2,2-5-24) (1672-174,8) (172-174,8) (35.9 51 183 243 243 70.9 855 0.88 80.6 97 55 131 35 116 122 78 325 53	(46-55) (175-19) (23.16-250) (175-19) (23.17-250) (22.487) (06.1-025) (25.1-850) (01-105) (24.487) (01-105) (21-351) (21	46.6 51 1.86 25.1 171 73.3 88 0.88 80.7 98 5.5 130 53 131 124 80 53 131 124 80 64 1 80 80 80 80 80 80 80 80 80 80	(46-55) (1.78-193) (2.37-264) (1672-1748) (84-578) (84-578) (84-578) (84-578) (84-578) (84-578) (84-578) (84-578) (84-578) (111-159) (84-578) (111-159) (111	61.0 50 1.89 26.1 171 76.7 91 0.88 80.7 99 5.5 132 55 132 126 152 126 81 2529 778	(46-53) (157.0-65.3) (151.197) (247.27.8) (167.3-1752) (171.132.4) (87-85) (08.405) (173.135.1) (08.405) (33.57) (112.132) (03.105) (33.57) (112.132) (112.132) (112.132) (112.132) (112.132) (117.133) (117.1	81.2 50 1.97 28.8 1713 84.4 97 0.88 81.2 100 5.6 131 48 185 129 84 662 1043	(46-54) (46-54) (1.88-207) (65-51.1) (1.672-1752) (71.3-21.1) (1.672-1752) (71.3-21.1) (1.672-1752) (73.3-85.6) (0.8-095) (75.3-85.6) (0.8-095) (75.3-85.6) (0.8-095) (1.62-5) (1.01-55) (
Maie Patry, liver index Age, your Body structioners, m ² Body mass index, kg m ² Hoight, m Weight, kg Waie circumference, cm Creatinier, mg/dl Gellt, m/mari, 17m2 Patring planess plicose, mg/dl Homoglobh Ade, % Low-deasity (proportie cholsetted), mg/dl Right-density (proporti	4.0 49 1.67 19.8 170.7 57.7 72 0.87 82.2 92 5.4 107 0 33 112 70 80 103 80 103	Q1 (3.0-4.8) (4.54) (1.61-174) (18.2-0.8) (166.8-174.5) (166.8-174.5) (166.8-174.5) (166.8-174.5) (168.9-0.8) (169.2-124) (0.3-0.9) (2.2-5.5) (0.2-124) (0.1-211) (0.4-3) (1.0-121) (1.0-121)	7.4 49 1.72 21.2 170.8 61.8 76.6 0.87 76.6 0.87 81.7 94 5.4 116 65 65 115 72 134 158	Q2 (45-54) (1.66-8.3) (1.66-179) (20-22.1) (1672-174.6) (28.14-53) (1672-174.6) (28.14-53) (167-135) (107-125) (166-8.8) (107-125) (166-83) (107-125) (166-83) (107-125) (166-83) (107-125) (166-83) (107-125) (166-83) (107-125) (166-83) (107-125) (166-83) (107-125) (166-83) (107-125) (16	11.2 50 1.75 22.0 171 64.1 90.87 81.4 94 5.4 120 62 74 117 73 146 216 623 1086	(4) (4) (4) (4) (4) (4) (4) (4)	15.5 50 1.77 22.6 170.9 65.7 81 0.88 81.3 95 5.4 124 60 83 118 75 219 296 646 1080	(44,3-16,7) (46,53) (1,7-1,84) (1,5-23,8) (1,5-23,8) (1,5-23,84) (0,5-0,85) (1,5-23,84) (0,5-0,85) (2,5-0,85) (2,5-0,85) (2,5-0,85) (1,0-1,23) (0,7-1,82) (1,0-1,23) (0,7-1,82) (1,0-1,23) (0,7-1,82) (1,0-1,23) (0,7-1,82) (1,0-1,23) (0,7-1,82) (1,0-1,23) (0,7-1,23) (1,0,1,23) (1,0-1,23)	20.9 50 1.79 23.2 171 67.5 82.7 0.88 81.0 95 5.4 126 58 93 120 76 227 332 701 1135	(4) (4) (4) (4) (4) (4) (4) (4)	27.4 50 1.81 23.7 170.9 69.1 84 80.8 80.8 96 5.4 129 56 104 121.5 77 310 412 762 1172	(46-57) (1.74-1.88) (2.25-2.49) (1.72-1.84) (2.25-2.49) (2.25-2.49) (2.25-2.49) (2.25-2.49) (2.25-2.49) (2.25-2.49) (1.72-1.84) (1.22-2.49) (2.15-2.49) (1.10-1.48) (1.10-1.48) (1.10-1.48) (1.10-1.49) (1.2-1.30	35.9 51 183 243 70.9 855 0.88 80.6 97 55 131 55 131 122 78 325 523	(46-5) (1.75-1.9) (1.75-1.9) (1.75-1.9) (1.75-1.9) (1.51-3.50) (1.51-3.50) (1.67-3.74,74) (0.51-3.50) (0.51-3.50) (0.51-3.50) (0.11-3.0) (1.13-3.12) (46.6 51 1.86 25.1 171 73.3 88 8.0.88 8.0.7 98 5.5 130 53 131 124 80 450 641 866 1239	(46-5) (73-5-49-8) (73-74-9) (73-74-9) (73-74-8) (84-5-91.5) (84-5-91.5) (84-71.3) (84-5-91.5) (84-71.3) (61.0 50 1.89 26.1 171 76.7 91 0.88 80.7 99 5.5 132 51 152 126 81 152 126 81 529 7.8	(46-5) ((31-1-57) (131-1-37) (131-137) (147-1752) (171-1372) (171-1372) (171-1372) (171-1372) (171-1372) (171-137) (171-137) (171-137) (115-20) (11	81.2 50 1.97 28.8 171.3 84.4 97 0.88 81.2 100 5.6 131 48 185 129 84 662 103 951 1265	(45.4-88.3) (46-54) (1.88-2.07) (67-31.1) (072-1752) (77-02.1) (01.6-103) (01.695) (75-045) (04-107) (54-53) (10-113) (10-113) (10-123) (1
Male Party liver index Party liver index Age, year Body mass index, kg m ² Height, cm Water (incomference, and Creatinite, mg/l) Generation (1992) Fasting planse places, mg/dl Homoglobin AL: Fasting planse places, mg/dl Homoglobin AL: Fasting planse places, mg/dl Homoglobin AL: Fasting planse places, mg/dl High-density lipeportein chalterarel, mg/dl Trigly-tender, mg/dl High-density lipeportein chalterarel, mg/dl Trigly-tender, mg/dl High-density lipeportein chalterarel, mg/dl High-density lipeportein chalterarel, mg/dl High-density lipeportein chalterarel, mg/dl Lipelover Jupid lovering drag (10) Authory presension drag (sc) Libes/e	4.0 49 1.67 19.8 170.7 72 0.87 72 0.87 72 92 92 92 92 92 92 92 92 92 9	Q1 (44-5) (1,61-74) (182-203) (182-203) (188-203) (168-1745) (264-13) (08-034) (07-08-62) (08-034) (07-08-62) (08-034) (05-25) (02-124) (04-35) (103-121) (04-35) (04-35) (103-121) (04-35) (04-35) (103-121) (04-35) (103-121) (04-35) (103-121) (04-35) (103-121) (04-35) (103-121) (04-35) (103-121) (04-35) (103-121) (1	7.4 49 1.72 21.2 170.8 61.8 76.6 61.8 76.6 61.8 76.6 61.8 70.9 4 5.4 116 65 115 72 134 158 555 5005 1005	Q2 (65-8.3) (65-8.3) (1.64-1.79) (2.62-22.1) (0.62-22.1) (0.62-23.1) (0.62-23.1) (0.62-33.9) (0.62-33.	11.2 50 1.75 22.0 1.71 64.1 79 0.87 81.4 94 5.4 1200 622 1200 62 117 73 146 216 623 1086 663	(10.2-12.2) (45-54) (1.6-21.3) (1.6-22.3) (1	15.5 50 1.77 22.6 170.9 65.7 81 0.88 81.3 95 5.4 124 60 83 118 75 219 219 296 646 1080 928	24 (14.3-16.7) (15.23.6) (15.73.84) (15.73.84) (15.73.84) (16.74.73) (16.74.85) (16.74.84) (16.74.85) (16.74.85) (17.74.84) (17.74.84) (17.74.85) (17.74.84) (17.74.85) (17.74.84) (17.74.85) (17.75) (20.9 50 1.79 23.2 171 67.5 82.7 0.88 81.0 95 5.4 126 58 93 120 76 227 332 701 1135 1322	(46.5) (17.2-1.36) (1.72-1.36) (1.72-1.36) (1.72-1.36) (1.72-1.36) (1.72-1.36) (1.72-1.36) (1.72-1.36) (1.72-1.37)	27.4 50 1.81 23.7 170.9 69.1 84 0.88 80.8 80.8 96 5.4 129 5.6 104 121.5 77 310 412 7762 1172 1610	(46-55) (1,74-185) (2,2-2-49) (1672-174.8) (65,1-73.4) (65,1-73.4) (65,1-73.4) (65,1-73.4) (65,1-73.4) (16,1-85) (10,1-48	35.9 51 1.83 243 170.8 80.6 80.6 80.6 97 55 131 55 116 122 523 325 523 325 523	(4) (4) (4) (1751-9) (1751-9) (1751-9) (12-31-325) (12-31-325) (12-31-325) (12-31) (13-325) (13-35)	46.6 51 1.86 25.1 171 73.3 88 80.7 98 5.5 130 53 131 124 80 641 450 641 1239 2276	(43,6-49,8) (43,6-49,8) (17,1-13) (17,1-13) (17,2-17,4) (16,2-17,4) (16,2-17,4) (16,2-17,4) (16,2-17,4) (16,13,4)\\(16,13,4)\\(16,13,4)\\(16,13,4)\\(16,13,4)\\(16,13,4)\\(16,13,4)\\(16,13,4)\\(16,13,4)\\(1	61.0 50 1.89 26.1 171 171 76.7 91 0.88 80.7 99 5.5 132 132 132 132 132 132 132 132	(46-55) (48-159) (48-179) (48-179) (48-179) (48-179) (48-1752) (11-18-25) (11	81.2 50 1.97 288 81 1713 844 97 0.88 812 100 5.6 131 145 129 84 662 1043 84 155 129 84	(45.4-88.3) (46-34) (13.8-207) (13.8-207) (13.8-207) (13.8-207) (15.73-22.1) (16.72-175.2) (75.3-85.6) (14.107)
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Table 2 Characteristics of eligible subjects, excluding hypofiltration by 10 equal parts of fatty liver index in women and men, respectively

Data are expressed as median (interquartile range) or number (pecentage).

On the other hand, in men, BMI < 18.5 and BMI \ge 30 were positively correlated with RHF in all three models.

In all the three models, there was a positive correlation of RHF with FLI values above 14.1 in women and above 35.9 in men.

The results of the multivariate adjusted logistic regression analysis for BMI or FLI in Model 3§ are shown in Fig. 3.

The results of sensitivity analysis using the Modification of Diet in Renal Disease equation (adapted for Japanese individuals by the Japanese Society of Nephrology), are shown in Fig. 4. There were no remarkable differences compared to using the CKD-EPI equation.

Association of RHF and BMI by glycemia level

In this study, 58,361 of 62,379 non-diabetic subjects were analyzed, excluding hypofiltration. Of these, 22,657 (38.8%) were prediabetes. By gender, 15,823 (43.6%) of the 36,312 men and 6834 (31.0%) of the 22,049 women were prediabetes. The results of the multivariate adjusted logistic regression analysis for BMI in Model 3§ for the

normoglycemia and prediabetes groups are shown in Fig. 5, respectively. In males, the OR for BMI < 18.5 was significant in the prediabetes group, but not in the normoglycemia group. In females, stratified analysis showed that the OR for BMI \geq 30 was no longer significant in normoglycemia nor in prediabetes.

Cut-off values of FLI for RHF by sex

The cut-off values for FLI in RHF were 14.7 and 30.4 for women and men, respectively.

Discussion

In this study, we examined the correlation between BMI or FLI with RHF, respectively. For BMI, there was a positive correlation with RHF in women and a U-shaped correlation in men. On the other hand, there was a linear positive correlation with RHF in both men and women.

The association between BMI and RHF differed according to sex. In this analysis, $BMI \ge 30$ was correlated with RHF in both sexes, which supports previous

Table 3	Multiv	variate adjus	ted logistic	regression	models fo	r the prev	/alence c	of RHF by	body	mass i	ndex le	vel or	fatty	liver	index	level,
respectiv	ely. *	P-values w	ere derived	using the r	nultivariate	e logistic r	regressio	n model								

		n	0.0	Model 1†		0.0	Model 2‡		0.0	Model 3§	
F 1	Body mass index	Range	OR	95% C.I.	P-value	OR	95% C.I.	P-value	OR	95% C.I.	P-value
Female		21-23	0.65	reference	< 0.01	0.70	reference	< 0.01	0.00	reference	< 0.01
		< 18.5	0.65	(0.52-0.82)	< 0.01	0.70	(0.55-0.88)	< 0.01	0.69	(0.54-0.87)	< 0.01
		18.5-21	0.74	(0.74-0.63)	< 0.01	0.77	(0.65-0.91)	< 0.01	0.75	(0.63-0.90)	< 0.01
		23-25	1.08	(0.88-1.31)	0.47	1.01	(0.83-1.24)	0.90	0.98	(0.79-1.21)	0.85
		25-30	1.28	(1.03-1.60)	0.03	1.12	(0.89-1.40)	0.33	1.05	(0.82-1.35)	0.71
<u> </u>		≥ 30	2.48	(1.74-3.53)	< 0.01	1.99	(1.38-2.87)	< 0.01	1.94	(1.32-2.86)	< 0.01
Male		21-23		referen ce			reference			referen ce	
		<18.5	1.57	(1.23-2.01)	< 0.01	1.60	(1.25-2.06)	< 0.01	1.48	(1.14-1.92)	< 0.01
		18.5-21	1.04	(0.90-1.20)	0.63	1.06	(0.91-1.23)	0.47	1.05	(0.90-1.22)	0.52
		23-25	0.98	(0.86-1.13)	0.81	0.97	(0.84-1.11)	0.63	0.95	(0.82-1.09)	0.47
		25-30	1.09	(0.93-1.27)	0.29	1.04	(0.89-1.22)	0.61	1.00	(0.84 - 1.18)	0.96
		≥ 30	1.96	(1.49-2.59)	< 0.01	1.82	(1.37-2.43)	< 0.01	1.68	(1.25-2.26)	< 0.01
				Model 1†			Model 2‡			Model 3§	
	Fatty liver index	Median (Range)	OR	95% C.I.	P-value	OR	95% C.I.	P-value	OR	95% C.I.	P-value
Female	Q1	1.5 (0.3-2.0)		referen ce			referen ce			reference	
	Q2	2.5 (2.0-2.9)	1.07	(0.82-1.40)	0.59	1.04	(0.80-1.36)	0.78	1.04	(0.79-1.37)	0.80
	Q3	3.4 (2.9-3.9)	0.99	(0.75-1.31)	0.97	0.97	(0.73-1.28)	0.81	0.93	(0.70-1.24)	0.63
	Q4	4.6 (3.9-5.3)	1.05	(0.79-1.38)	0.75	1.02	(0.77-1.35)	0.90	1.03	(0.77-1.37)	0.86
	Q5	6.1 (5.3-7.0)	1.39	(1.06-1.82)	< 0.01	1.31	(0.99-1.71)	0.05	1.32	(1.00-1.75)	0.05
	Q6	8.3 (7.0-9.9)	1.39	(1.06-1.84)	< 0.01	1.30	(0.98-1.72)	0.07	1.31	(0.98-1.75)	0.07
	Q7	11.8 (9.9-14.1)	1.43	(1.08-1.90)	< 0.01	1.31	(0.98-1.76)	0.07	1.29	(0.95-1.74)	0.10
	Q8	17.4 (14.1-22.4)	1.84	(1.38-2.43)	< 0.01	1.63	(1.22-2.18)	< 0.01	1.64	(1.21-2.22)	< 0.01
	Q9	29.2 (22.4-40.9)	1.98	(1.48-2.66)	< 0.01	1.67	(1.22-2.27)	< 0.01	1.67	(1.20-2.31)	< 0.01
	Q10	59.8 (40.9-99.9)	2.92	(2.12-4.01)	< 0.01	2.29	(1.62-3.23)	< 0.01	2.33	(1.62-3.37)	< 0.01
Male	Q1	4.0 (0.6-5.7)		referen ce			referen ce			referen ce	
	Q2	7.4 (5.7-9.3)	1.10	(0.89-1.35)	0.39	1.08	(0.87-1.33)	0.50	1.12	(0.91-1.40)	0.29
	Q3	11.2 (9.3-13.2)	1.03	(0.82-1.28)	0.81	0.99	(0.79-1.23)	0.90	1.04	(0.83-1.31)	0.72
	Q4	15.5 (13.2-18.0)	1.17	(0.94-1.45)	0.17	1.12	(0.89-1.40)	0.33	1.17	(0.93-1.47)	0.18
	Q5	20.9 (18.9-24.0)	1.33	(1.07-1.65)	< 0.01	1.26	(1.01-1.57)	0.04	1.31	(1.04-1.64)	0.02
	Q6	27.4 (24.0-31.4)	1.17	(0.93-1.46)	0.18	1.09	(0.86-1.38)	0.47	1.13	(0.89-1.43)	0.33
	Q7	35.9 (31.4-40.8)	1.44	(1.15-1.80)	< 0.01	1.31	(1.04-1.65)	0.02	1.36	(1.07-1.73)	0.01
	Q8	46.6 (40.8-53.4)	1.57	(1.25-1.96)	< 0.01	1.42	(1.12-1.81)	< 0.01	1.47	(1.15-1.88)	< 0.01
	Q9	61.0 (53.4-69.8)	1.69	(1.34-2.13)	< 0.01	1.48	(1.15-1.90)	< 0.01	1.50	(1.16-1.94)	< 0.01
	Q10	81.2 (69.8-99.9)	2.41	(1.90-3.06)	< 0.01	2.08	(1.60-2.71)	< 0.01	2.09	(1.59-2.75)	< 0.01
* 0 1	1 16	1.2 1.1 1.2									

P-values are derived from multivariate logistic regression model.

OR; odds ratio. 95% C.I.; 95% confidence interval.

 \dagger Adjusted for age (categorized into four age groups: 40-44, 45-49, 50-54 and 55–59 years) .

1 Model-1 plus FPG level, blood pressure level, HDL, antihypertensive medication use, lipid-lowering medication use, current smoking, and daily drinking

\$ Model-2 plus, 30 minutes or more per day exercise, skipping breakfast, midnight eating, 10kg or more weight gain since age 20, and adequate sleeping.

FPG level; (normal; FPG <100 mg/dl, prediabetes 1; FPG 100-109 mg/dl, prediabetes 2; FPG 110-125 mg/dl)

Blood pressure level; (Normal; SBP < 120 mmHg and DBP < 80 mmHg, prehypertension; SBP 120-139 mmHg or DBP 80-89 mmHg, hypertension; SBP \geq 140 mmHg or DBP \geq 90 mmHg)

FPG level: (normal FPG < 100 mg/dl, prediabetes 1; FPG 100-109 mg/dl, prediabetes 2; FPG 110-125 mg/dl)

Blood pressure level (normal, SBP < 120 mmHg and DBP < 80 mmHg, prehypertension; SBP 120–139 mmHg or DBP 80–89 mmHg, hypertension; SBP ≥ 140 mmHg or DBP ≥ 90 mmHg)

OR Odds ratio

⁺ Adjusted for age (categorised into four age groups: 40-44, 45-49, 50-54, and 55-59 years)

⁺ Model-1 plus FPG level, blood pressure level, HDL, antihypertensive medication use, lipid-lowering medication use, current smoking, and daily drinking

§ Model-2 plus, exercising for 30 min or more per day, skipping breakfast, midnight eating, 10 kg or more weight gain since age of 20 years and adequate sleeping

reports that obesity is a risk factor for RHF [29]. One result not seen in previous reports was that among men, the lean body mass index (BMI) < 18.5 was also associated with RHF. Although the relationship between low body mass and RHF has not been fully explained, it is widely known that the relationship between BMI and all-cause mortality is U-shaped, with the lowest rates

between 22.5 and 25 kg/m² [30]. Thus, low or high values of BMI are associated with an increased risk of mortality. Furthermore, several previous studies have argued that RHF is associated with mortality risk [7, 24]. Therefore, the relationship between low body mass and RHF may reflect a completely different pathology than the relationship between obesity and RHF.



Fig. 3 Graph of correlation between BMI and FLI for RHF. The dots represent each odds ratio for the categories classified by BMI values; additionally, the error bars represent 95% CI of the odds ratio

It has been found that even in the absence of diabetes, high insulin resistance is likely to increase the renal intraglomerular hydrostatic pressure [31]. It is known that Asians, particularly East Asians, have a lower capacity for fat storage in subcutaneous adipose tissue, compared with other ethnic groups [32]. Therefore, lipid spillover, in which free fatty acid (FFA) overflow from adipose tissue, is thought to be more likely. Lipid spillover may result in the accumulation of ectopic fat, such as fatty liver, which may lead to insulin resistance. Kadowaki et al. evaluated the fat distribution, adipose tissue insulin resistance, and skeletal muscle insulin resistance in non-obese Japanese men [33]. Even among non-obese individuals, visceral and hepatic fat accumulations were observed in some individuals, with various accumulation patterns. Even in the absence of visceral fat accumulation, muscle insulin resistance (metabolic disturbance) was observed in the presence of fatty



Fig. 4 Graph of correlation between BMI and FLI for RHF (a sensitivity analysis). The dots represent each odds ratio for the categories classified by BMI values; additionally, the error bars represent 95% CI of the odds ratio

liver, whereas no insulin resistance was observed in the absence of fatty liver, even in the presence of visceral fat accumulation. It is notable that extremely thin people have lower muscle mass and are more likely to develop insulin resistance, which may lead to the development of RHF.

In terms of the relationship between FLI and RHF, it was linearly significant from Q8 for women (FLI>14.1) and Q7 for men (FLI>31.4). In addition, the cut-off

values for FLI in RHF were 14.7 for women and 30.4 for men. The cut-off value of FLI for NAFLD in Asians is about 30; specifically, it is 35 for men and 20 for women [34, 35], which is generally consistent with the present results. It can be mentioned that FLI correlates well with RHF, and NAFLD and RHF might be associated. The FLI might be more useful than BMI in screening for RHF. However, cross-sectional epidemiological studies are not suitable for estimating the pathophysiology or causality.



Fig. 5 Graph of correlation between BMI for RHF (a stratified analysis, dividing the subjects into two groups: normoglycemia and prediabetes.). The dots represent each odds ratio for the categories classified by BMI values; additionally, the error bars represent 95% CI of the odds ratio

Therefore, further longitudinal studies and interventional trials are needed to further investigate the U-shaped association between RHF and BMI.

This study had several limitations. Because this study was cross-sectional, it was not possible to assume a causal relationship with RHF. There might have been some bias towards the participants who were particularly motivated to undergo a health check-up. Since most of the health check-up recipients are workers, a sampling bias due to the healthy worker effect is possible. Information on serum uric acid levels and uric-acid-lowering drugs was not available for this study.

Conclusions

The BMI and RHF correlated linearly in women, but the correlation was U-shaped in men. On the other hand, FLI and RHF correlated linearly in both sexes. NAFLD may be associated with RHF. FLI is a simple marker that can be obtained from health check-ups. Since a high FLI correlated with RHF, it may be beneficial to monitor the renal function in such a population.

Abbreviation

RHF	Renal hyperfiltration
BMI	Body mass index
FLI	Fatty liver index
NAFLD	Non-alcoholic fatty liver disease
BSA	Body surface area
GFR	Glomerular filtration rate
CKD	Chronic kidney disease

MDRD CKD-EPI	Modification of Diet in Renal Disease Study Chronic Kidney Disease Epidemiology Collaboration
SBP	Systolic blood pressure
DBP	Diastolic blood pressure
HDL-c	High-density lipoprotein cholesterol
LDL-c	Low-density lipoprotein cholesterol
TG	Triglyceride
GGT	Gamma-glutamyl transferase
WC	Waist circumference
FPG	Fasting plasma glucose
Cr	Creatinine

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Authors' contributions

AK designed and analyzed the study and interpreted the results. YF edited the study design and interpretation of the results and was a major contributor in writing the manuscript. All authors read and approved the final manuscript.

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Availability of data and materials

Data cannot be shared publicly because of agreement between data holders. Data are available from The Mutal Aid Association of Prefectural Government Personnel (contact via https://www.chikyosai.or.jp/) for researchers who meet the criteria for access to confidential data.

Declarations

Ethics approval and consent to participate

This study was approved by the Teikyo University Ethical Review Board for Medical and Health Research Involving Human Subjects (approval No.: 18–200-3) and conducted according to the Declaration of Helsinki.

Consent for publication

In this study, only anonymised data were used, and we had no access to personal information.

Competing interests

The authors declare that they have no competing interests.

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