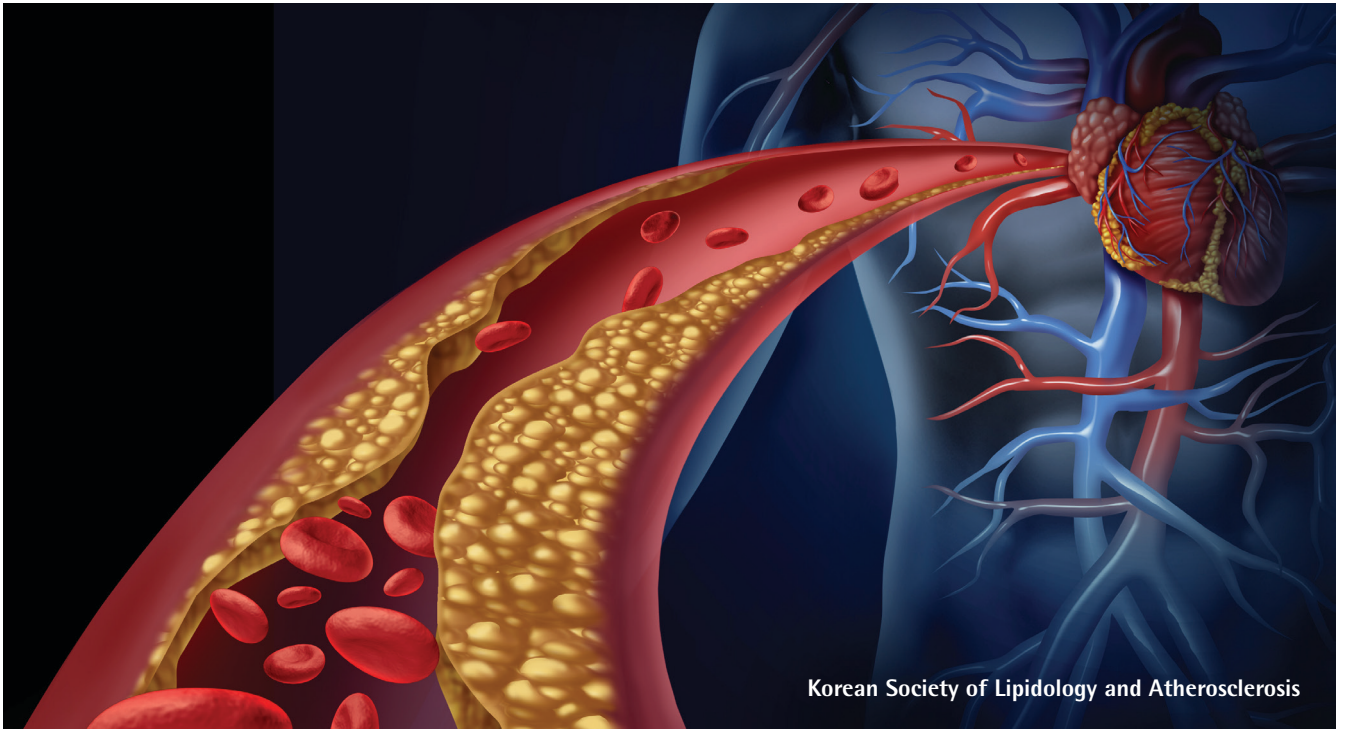


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# DYSLIPIDEMIA FACT SHEET IN KOREA 2015



Korean Society of Lipidology and Atherosclerosis

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## Data Sources

The estimates in this fact sheet were derived from data on the 2013 Korean National Health and Nutritional Examination Survey (KNHANES) conducted by the Korean Centers for Disease Control and Prevention (KCDC) and the Korean Ministry of Health and Welfare. The estimated percentage of people with dyslipidemia receiving lipid-lowering medication was determined from the National Health Insurance Service in Korea.

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## Definitions

The following terms were defined according to the Korean guideline for the management of dyslipidemia (3rd version) from Korean Society of Lipidology and Atherosclerosis (KSLA).

- Hyper-LDL-cholesterolemia was defined as serum LDL-cholesterol (LDL-C)  $\geq 160$  mg/dL or use of lipid-lowering medication for more than 20 days a month.
- Hypo-HDL-cholesterolemia was defined as serum HDL-cholesterol (HDL-C)  $< 40$  mg/dL.
- Hypertriglyceridemia was defined as serum triglycerides (TG)  $\geq 200$  mg/dL.
- Dyslipidemia was diagnosed as having met one or more of the definitions stated above or previous diagnosis of dyslipidemia.

LDL: Low-density lipoprotein

HDL: High-density lipoprotein

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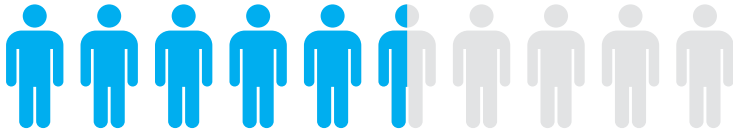
# Prevalence of Dyslipidemia

- Approximately half of adults aged 30 years or older had dyslipidemia.
- About 6 out of every 10 men and 4 out of every 10 women were dyslipidemic.

**1**  
**2**

of people aged  
30 years or older

## Prevalence (People aged 30 years or older)



**Men**  
**57.6%**



**Women**  
**38.3%**



**Total**  
**47.8%**



9,495,611 people



6,586,329 people

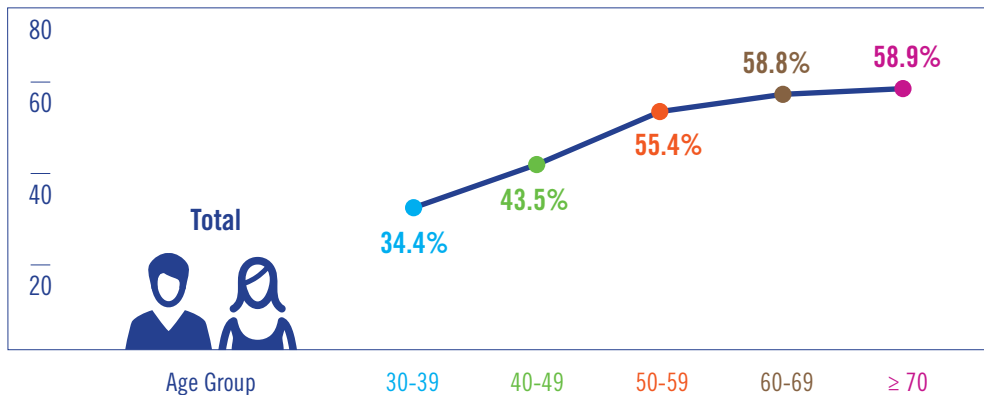
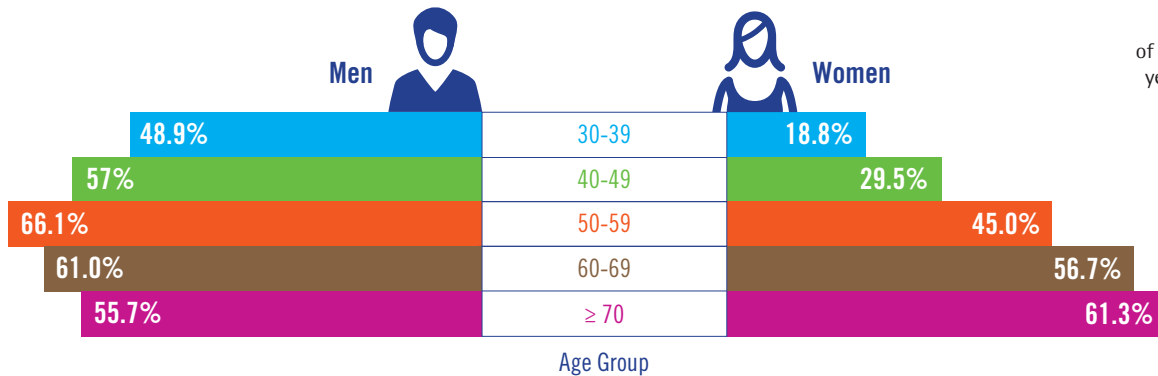
**16,081,940** people

# Prevalence of Dyslipidemia by Age Group

- Throughout all age groups of 30 years or older, about half of men had dyslipidemia.
- On the other hand, the prevalence of dyslipidemia in women tended to substantially increase after the age of 50.

1  
2

of men aged 30 years or older

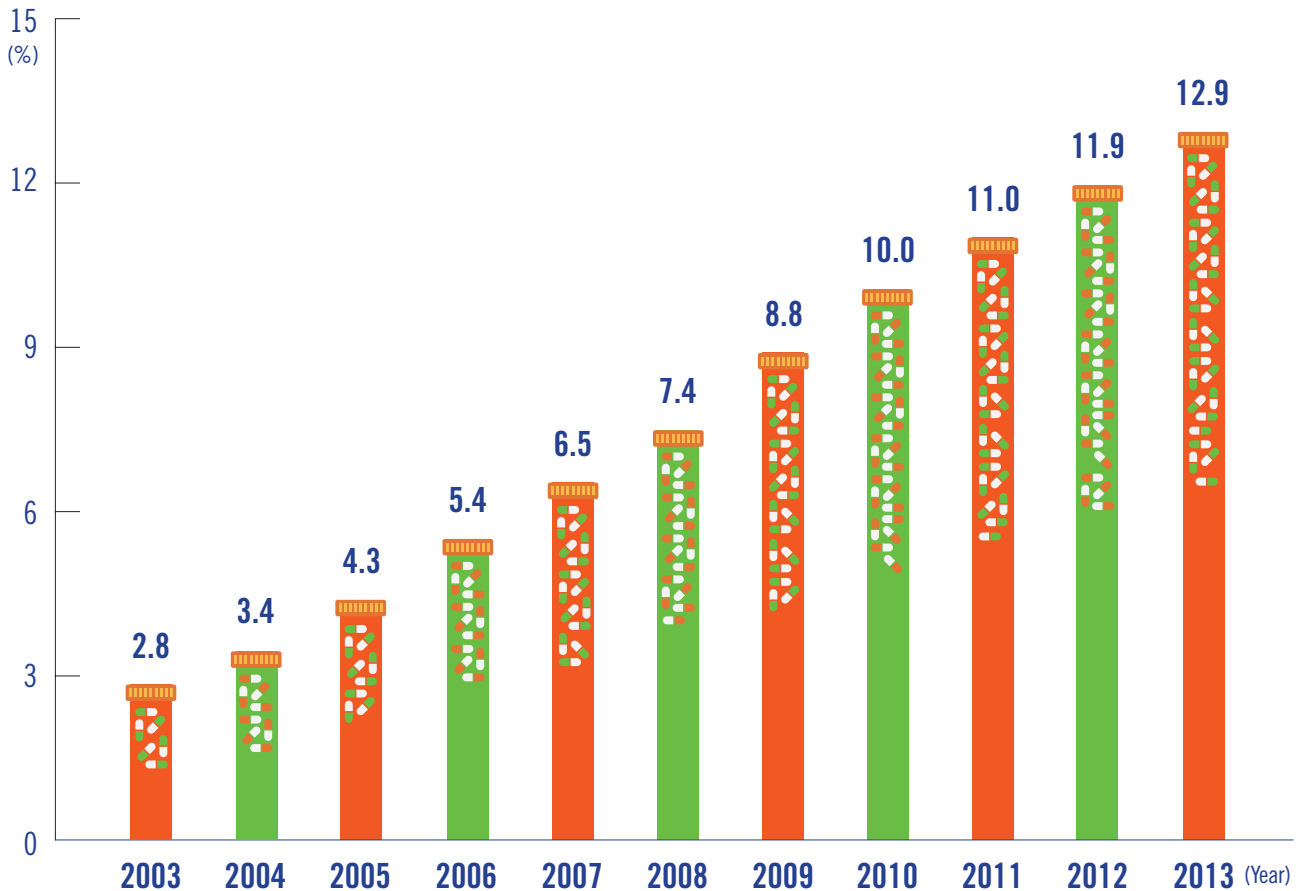


# Treatment with Lipid-lowering Medication

# ×5

since 2003

- According to the data from National Health Insurance Service in Korea, percentage of people with dyslipidemia receiving lipid-lowering medication was increasing for the past 10 years. In 2013, the percentage of patients receiving lipid-lowering medication was 5 times greater compared to 2003.



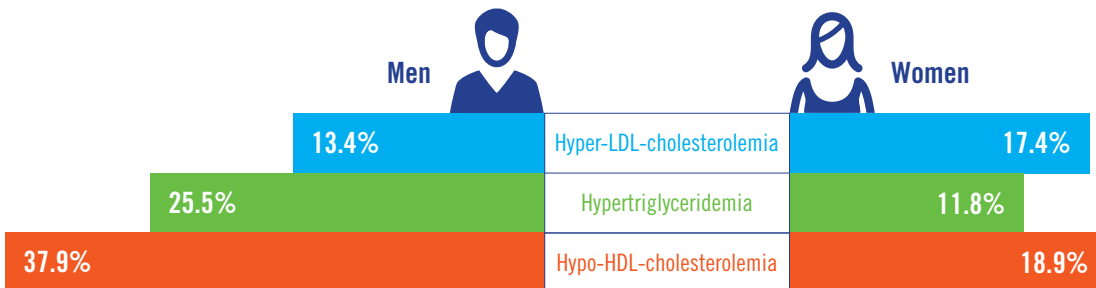
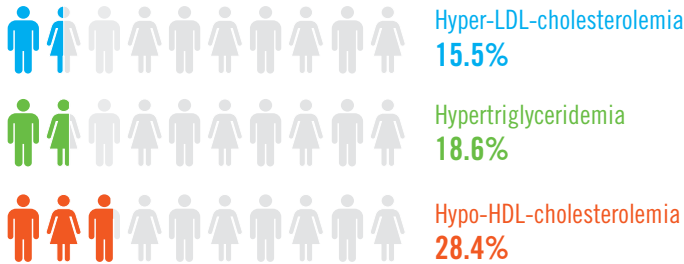
# Prevalences of Dyslipidemia Subtypes

1  
6

- About 1 out of every 6 adults aged 30 years or older had hyper-LDL-cholesterolemia, and its prevalence was greater in women than in men.
- Prevalences of hypertriglyceridemia and hypo-HDL-cholesterolemia in men were about twice as great as those in women.
- Among men aged 30 years or older, about 1 out of every 4 men had hypertriglyceridemia, and 1 out of every 3 men had hypo-HDL-cholesterolemia.

with hyper-LDL-cholesterolemia

## Prevalence (People aged 30 years or older)

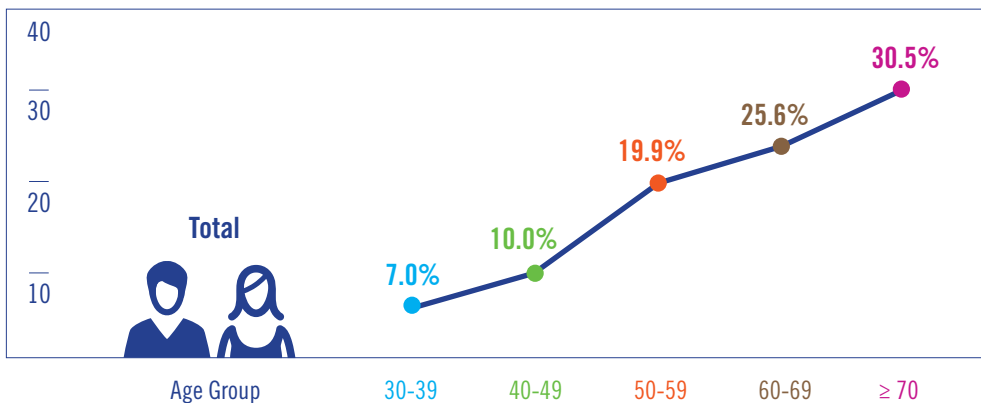
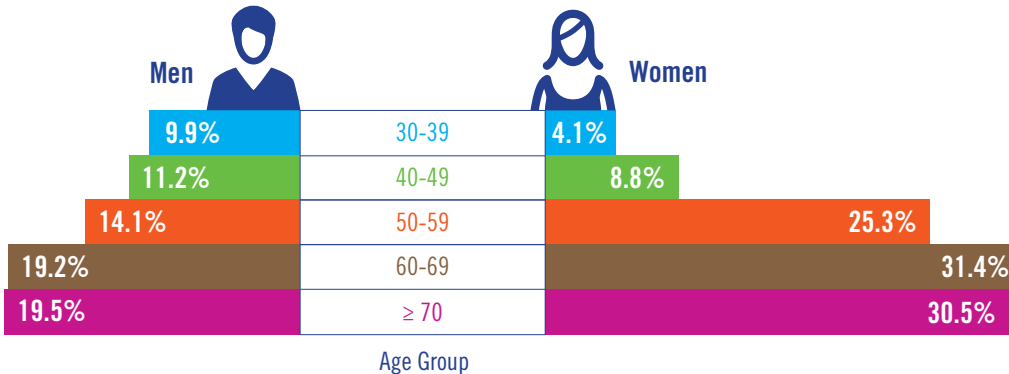


# Hyper-LDL-cholesterolemia

- The prevalence of hyper-LDL-cholesterolemia increased with age, where 1 out of every 5 men and 1 out of every 3 women aged 60 years or older had hyper-LDL-cholesterolemia.
- Percentages of women with hyper-LDL-cholesterolemia in their 50s were 6 times and 3 times greater than those of women in their 30s and 40s, respectively.

1  
—  
3

of women aged  
60 years or older

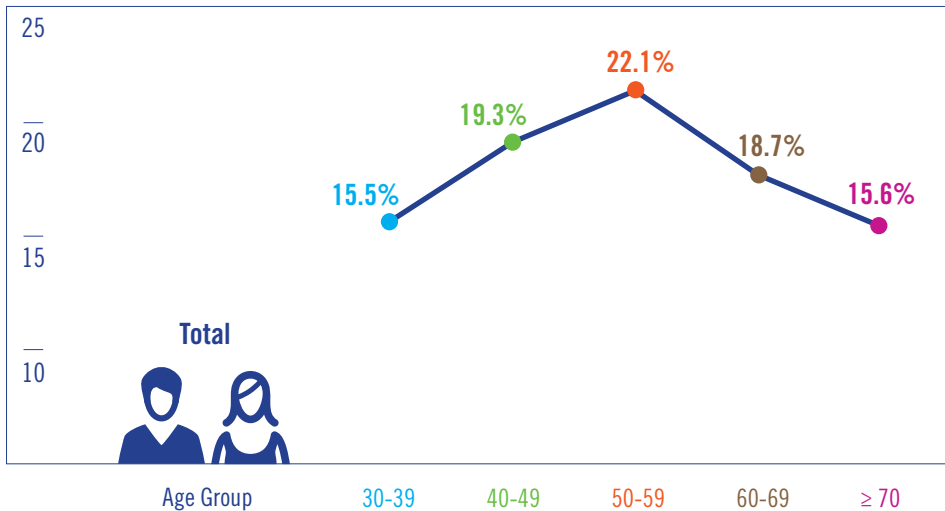
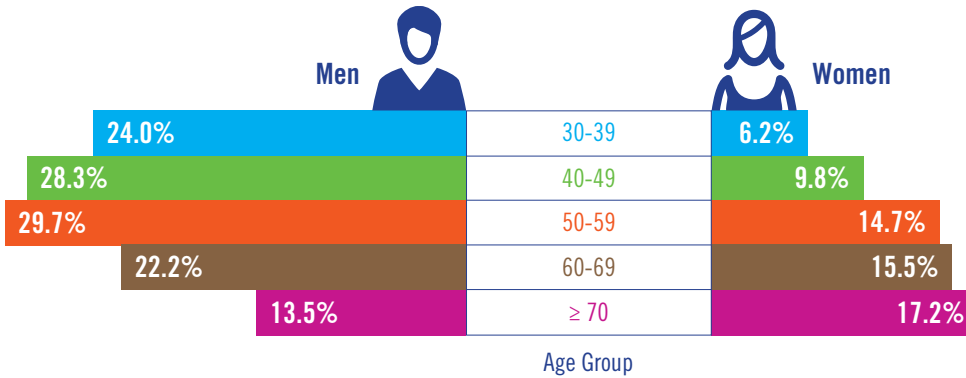


# Hypertriglyceridemia

×4

- Hypertriglyceridemia was more prevalent in men than in women. The prevalences of hypertriglyceridemia in their 30s, 40s and 50s were 4 times, 2.5 times and 2 times greater than those of women within the same age groups.

in men in 30s'





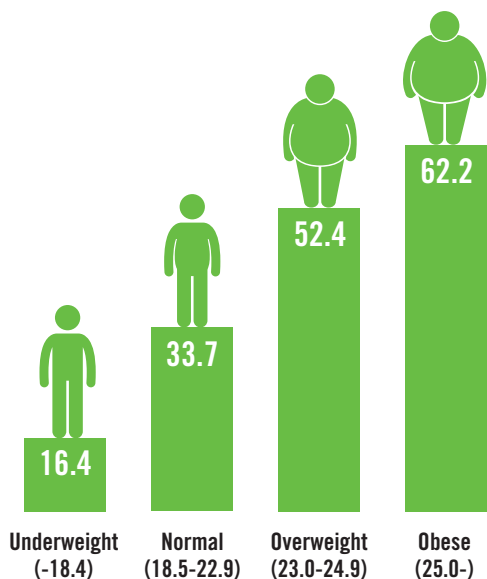
# Obesity and Dyslipidemia

- About half of overweight or obese adults had dyslipidemia.
- Even within the normal range of body weight, 1 out of every 3 adults had dyslipidemia.
- In cases with abdominal obesity, 2 out of every 3 adults showed dyslipidemic profiles.

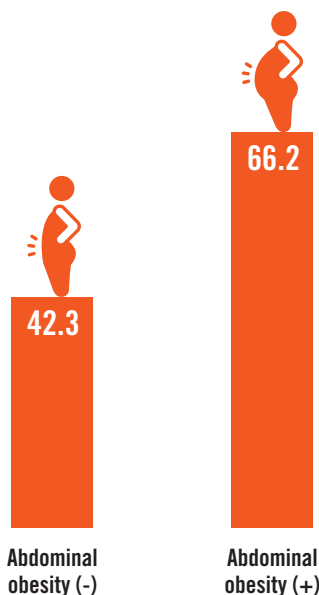
**2**  
**3**

of adults with abdominal obesity

Prevalence of dyslipidemia according to body mass index (BMI) (%)



Prevalence of dyslipidemia according to abdominal obesity (%)



## Abdominal obesity

Waist circumference  $\geq 90$  cm in men

Waist circumference  $\geq 85$  cm in women

# Diabetes and Dyslipidemia

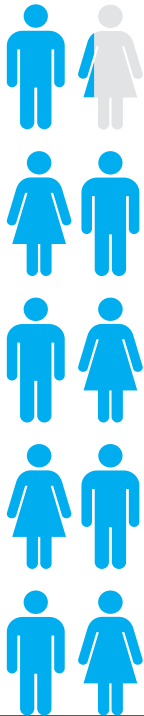
- About 3 out of every 4 adults with diabetes had dyslipidemia.
- When the LDL-C cut-off value was strictly set to 100 mg/dL, more than 90% of people with diabetes had dyslipidemia.

73.1%



With LDL-C cut-off of  
≥ 160 mg/dL

92.4%



With LDL-C cut-off of  
≥ 100 mg/dL

9  
10

of adults  
with diabetes



# Hypertension and Dyslipidemia

- Approximately 2 out of every 3 adults with hypertension were dyslipidemic.

**2**  

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**3**

of adults  
with hypertension



**62.8%**



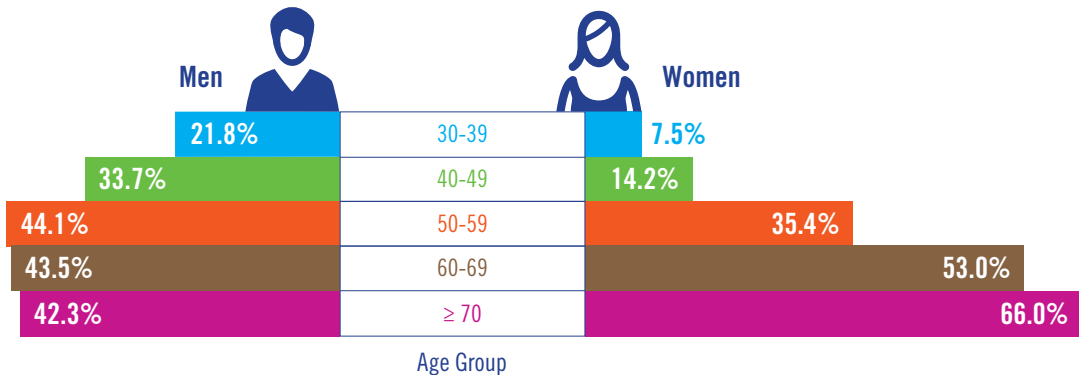
# Prevalence of Metabolic Syndrome

- About 1 out of every 3 adults aged 30 years or older had metabolic syndrome.
- Percentage of men in their 50s or younger with metabolic syndrome was 2-3 times greater than that of age-matched women.
- In women with the ages of 50-59, a twofold increase in the prevalence of metabolic syndrome was observed. The prevalence kept increasing age-dependently thereafter.

1  
—  
3

of people aged  
30 years or older

## Prevalence (People aged 30 years or older)



Metabolic syndrome was defined as having met three or more of the following;

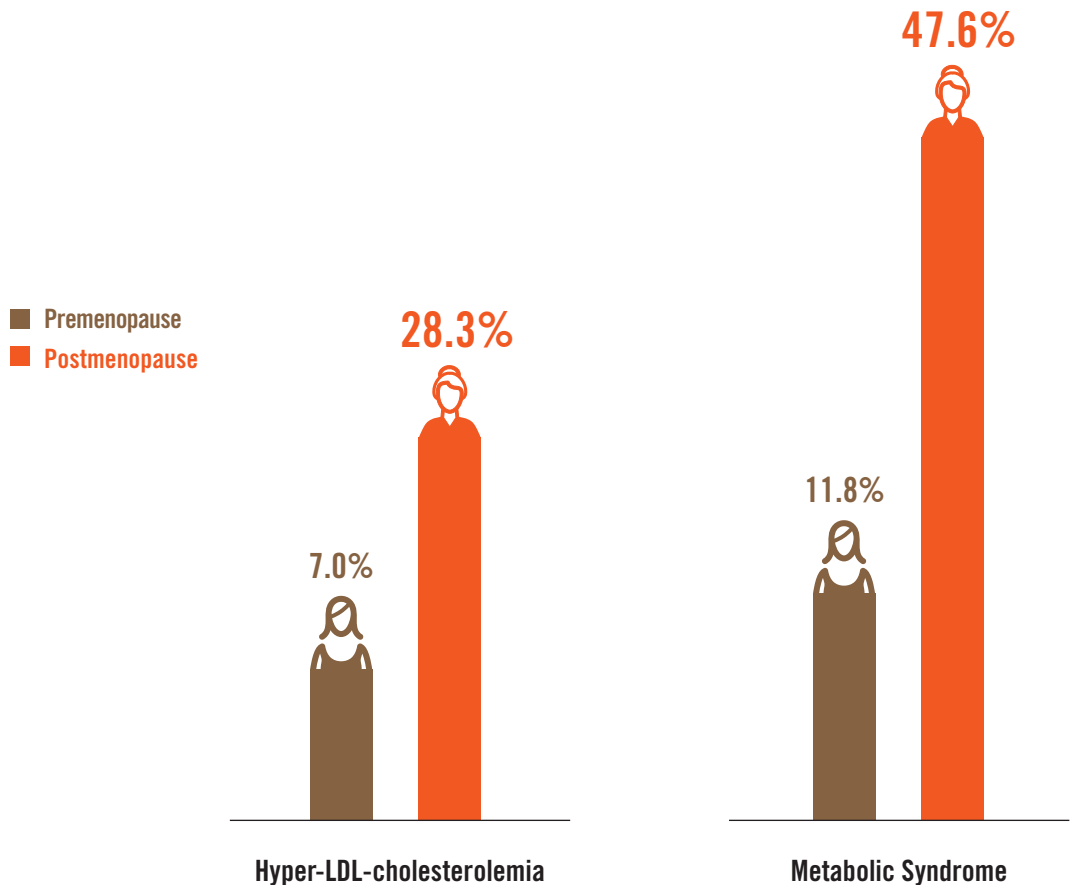
Abdominal obesity, fasting glucose  $\geq 100$  mg/dL or history of diabetes, blood pressure  $\geq 130/85$  mmHg or history of hypertension, serum TG  $\geq 150$  mg/dL, and serum HDL-C  $< 40$  mg/dL (men) or  $< 50$  mg/dL (women)

# Hyper-LDL-cholesterolemia and Metabolic Syndrome in Postmenopausal Women

×4

in postmenopausal women

- Prevalences of dyslipidemia and metabolic syndrome in postmenopausal women were 4 times greater than those of premenopausal women.



# Average Lipid Profiles in Korea

- The mean (average) serum total cholesterol levels in adults aged 30 years or older were 189 mg/dL in men and 192 mg/dL in women.

 **189**

 **192**

Lipid types	Mean levels	Percentiles						
		5	10	25	50	75	90	95
Men								
Total cholesterol	189	133	145	166	187	209	233	249
Triglycerides	172	54	66	90	130	194	286	385
HDL-cholesterol	45	30	33	37	43	50	57	63
LDL-cholesterol	114	63	72	93	113	134	155	168
Women								
Total cholesterol	192	139	149	168	189	215	241	258
Triglycerides	121	44	52	70	101	150	210	267
HDL-cholesterol	50	35	37	43	50	57	64	70
LDL-cholesterol	118	73	81	96	116	140	160	175

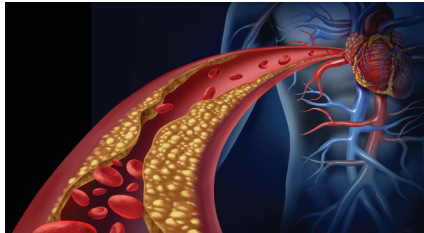
# SUMMARY

## DYSLIPIDEMIA FACT SHEET IN KOREA 2015

- 
- More than 16 million (47.8%) Korean adults aged 30 years or older had dyslipidemia.
  - About 6 out of every 10 men (57.6%) and 4 out of every 10 women (38.3%) were dyslipidemic.
  - Prevalence of dyslipidemia increased in an age-dependent manner, and it was more evident in women with ages of 50 and over.
  - Percentage of people receiving treatment with lipid-lowering medication increased by 5 times in 2013 compared to 2003.
  - About 1 in every 6 adults aged 30 years or older had hyper-LDL-cholesterolemia, and it was more common in women than in men. The prevalence increased in an age-dependent manner, such that about 1 in every 5 men and every 3 women aged 60 years or older had hyper-LDL-cholesterolemia.
  - In all age groups, prevalences of hypertriglyceridemia and hypo-HDL-cholesterolemia in men were approximately twice as great as those in women. Especially, in the age group of 30-39 years, the percentage of men with hypertriglyceridemia was 4 times greater than that of women.
  - Dyslipidemia was seen in 1 out of every 3 adults with normal body weight and in about half of overweight or obese adults. About 2 out of every 3 adults with abdominal obesity were dyslipidemic.
  - About 3 out of every 4 adults with diabetes had dyslipidemia. When the LDL-C cut-off value was strictly set to 100 mg/dL, 9 out of every 10 adults with diabetes were diagnosed with dyslipidemia.
  - Approximately 2 out of every 3 adults with hypertension had dyslipidemia.
  - About 1 out of every 3 adults aged 30 years or older had metabolic syndrome.
  - Prevalences of hyper-LDL-cholesterolemia and metabolic syndrome in postmenopausal women were 4 times greater than those in premenopausal women.

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# DYSLIPIDEMIA FACT SHEET IN KOREA 2015



Korean Society of  
Lipidology and Atherosclerosis