

Unawareness Risk for Stroke and Cardiovascular Disease among Normal Weight Hypertension with and without Metabolic Syndrome

Results from Primary Care Settings in a Developing Country

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Metabolic syndrome (MetS) is a common complex risk of cardiovascular disease. In Thailand health care context, a term "abdominal obesity" has been used interchangeably "MetS". Hypertension and overweight are 2 among 5 components of MetS. Obese hypertensions are seemingly recognized their risk, in contrast, non-obese has less awareness their risk.

In fact, abdominal obesity is not MetS, and MetS can be found in both obese and non-obese person.[1] However, none of the previous studied address CVD risk awareness in non-obese hypertension. Thus, we explored whether non-obese hypertension (BMI < 23.0 kg/m²) with MetS and non-MetS had differences in CVD risk awareness.

Methods

We analyzed data from 571 non-obese hypertension treated at 11 primary care units. MetS was defined according to NCEP-ATP III criteria.[2] Weight circumference (WC) was defined based on WHO-APR criteria.

A-4 item questionnaires was used to assess patient's risk awareness. They were asked "how would you say about your risk for developing stroke?" (DM, CKD, and CHD). Respondence method was 4-rating scales from very low risk, to very high risk. A total score was calculated to determine overall CVD risk awareness. Score on each item was classified into less and high awareness by using median values.

Mann-Whitney test, Chi-square, and odds ratio were used to compare risk awareness.

Results

MetS was diagnosed in 54.5% of patients. MetS were more likely had high awareness of stroke (p=0.077), and overall CVD (p=0.074). Both groups had not differences in awareness of DM, CKD, and CHD. Rates of high risk awareness were in stroke 30%, CKD 28%, DM 27%, CHD 27%, and overall CVD 40%.

Cardiovascular risk awareness score among MetS and non-MetS hypertension

Risk Awareness for Developing	MetS	Non-MetS	U-test	p
CHD (score 4)	2.05(.79)	1.88(.77)	1.58	0.113
Stroke (score 4)	2.12(.76)	1.97(.86)	1.77	0.077
CKD (score 4)	2.06(.78)	1.93(.85)	1.45	0.148
Diabetes (score 4)	2.03(.85)	1.91(.85)	1.11	0.267
CVD-Overall (score 16)	8.26(2.59)	7.68(2.69)	1.79	0.074

CKD, chronic kidney disease; CHD, coronary heart disease; CVD, cardiovascular disease; MetS, metabolic syndrome

Cardiovascular risk awareness levels among MetS and Non-MetS hypertension

Level of Awareness(%)	MetS	Non-MetS	p	OR(95%CI)
CHD				
High awareness	26.9	22.1	0.399	1.29(0.71-2.37)
Low awareness	73.1	77.9		
Stroke				
High awareness	30.1	23.3	0.242	1.42(0.79-2.56)
Low awareness	69.9	76.7		
CKD				
High awareness	28.0	23.3	0.414	1.28(0.71-2.32)
Low awareness	72.0	76.7		
Diabetes				
High awareness	27.4	24.4	0.602	1.17(0.65-2.10)
Low awareness	72.6	75.6		

CKD, chronic kidney disease; CHD, coronary heart disease; CVD, cardiovascular disease; MetS, metabolic syndrome

Risk awareness levels in MetS and non-MetS were not differences, for CHD (OR 1.29, 95%CI 0.71-2.37), stroke (OR 1.42, 95%CI 0.79-2.56), CKD (OR 1.28, 95%CI 0.71-2.32), DM (OR 1.17, 95%CI 0.65-2.10), and overall CVD (OR 1.33, 95%CI 0.78-2.27).

Conclusions

Non-obese hypertension with MetS had less awareness on risk for CVD. Unawareness of CVD risk may a leading cause of inappropriate treatment, poor self-care, and adverse outcomes.

REFERENCES

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