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Risk of Diabetes Mellitus in Patients in Using Different Types of Hypnotics: a population-based cohort study

Jin-Lin Chiu[1], Gwo-Ping Jong[2], Bo Yang[3], Hung-Yi Chen[4,*]
[1] Master Program of Pharmaceutical Manufacture, China Medical University, Taiwan, R.O.C.
[2] Chung Shan Medical University Hospital, Taiwan, R.O.C.
[3] Mind-Body Interface Laboratory, China Medical University Hospital, Taiwan, R.O.C.
[4] Pharmacy Department, China Medical University Beigang Hospital, Taiwan, R.O.C.

One tenth of Taiwanese suffer from chronic insomnia according to the research from Taiwan Society of Sleep Medicine in 2019. Research shows that the prevalence of Benzodiazepines drug use increased from 3.0% in 1997 to 3.3% in 2004. In Taiwan, the mortality rate of diabetes mellitus is among the top five causes of death. A study shows that the use of hypnotics is associated with abnormal blood glucose, other research indicated sleep quality and quantity are the risk of new onset diabetes mellitus. Therefore, the study aims to investigate the relationship between hypnotics and new-onset diabetes mellitus. The retrospective population-based cohort study was conducted to investigate the relationship between the hypnotics useand new-onset diabetes mellitus from National Health Insurance Research Database (NHIRD). The study used statistical methods Cox proportional hazard model and Kaplan-Meier survival curve. A total of 263,484 people were tracked from 2004 to 2013 between the ages from 40 to 90 after screening data by exclude criteria. The results of the study found that there were statistically significant difference between the cumulative medication duration ≥180 days(HR = 1.780; 95% CI, 1.725-1.827), the use of benzodiazepines (HR = 1.739; 95% CI, 1.680-1.800) and Z-drug (HR = 1.706; 95% CI, 1.585-1.838) ,related to the new-onset diabetes.

Biography

Jin-Lin,Chiu majors in Master Program of Pharmaceutical Manufacture from China Medical University in Taiwan. She expertise in statistical analysis of epidemiology and clinical pharmacology. She is also a teaching assistant and research assistant in Pharmacy demartment.

Presenting author details
Full name: Chiu, Jin-Lin
Contact number: +886-982089149
Email id: c24341896@gmail.com
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Variable	≧ 180 days Hypnotics users (n=36,172) 50 (%)	NON-HYPNOTICS USERS (n=36,172) 50 (%)	P value
Gender			
Female	22,986 (63.55)	22,986 (63.55)	
Male	13,186 (36.45)	13,186 (36.45)	
Age			
40≦x< 65	27381 (75.7)	29,007 (80.19)	
65≦x< 75	5,959 (16.47)	4,804 (13.28)	
≥75	2,832 (7.83)	2,361 (6.53)	
Mean(SD)	56.1 (11.1)	55.1 (10.6)	
Cormorbidity			
HTN	24,001 (66.35)	14,472 (40.01)	<0.0001
HLD	16,924 (46.79)	9,465 (26.17)	<0.0001
STROKE	6,809 (18.82)	2,328 (6.44)	<0.0001
CKD	4,034 (11.15)	2,109 (5.83)	<0.0001
CAD	9,721 (26.87)	2,807 (7.76)	<0.0001
Depression	10,602 (29.31)	284 (0.79)	<0.0001
Concurrent medications			
ACEI	10,829 (29.94)	5,192 (14.35)	<0.0001
ARB	12,492 (34.53)	6,101 (16.87)	<0.0001
Thiazide	6,860 (18.96)	2,924 (8.08)	<0.0001
Loop	7,678 (21.23)	3,346 (9.25)	<0.0001
A block	8,727 (24.13)	4,232 (11.70)	<0.0001
B block	25,778 (71.27)	9,335 (25.81)	<0.0001
DHP	19,322 (53.42)	10,793 (29.84)	<0.0001
NDHP	7,492 (20.71)	1,776 (4,91)	<0.0001
Statin	13,353 (36.92)	6,672 (18.45)	<0.0001
Steroid	32,489 (89.82)	26,940 (74.48)	<0.0001
ANTIPSY	18,892 (52.23)	6,833 (18.89)	<0.0001
Follow up time (Year)	7.3	8.6	
Follow up time (SD)	2.9	2.4	