

Background

Hypoglycemia is a common adverse event and one of the main obstacles to achieving good glycemic control to minimize the risk of diabetic complications in patients with diabetes. Therefore, most physicians try to reduce hypoglycemia events through education about hypoglycaemia, such as diabetes self-management education. In this study, we surveyed the actual insight about hypoglycemia, behavior of diabetic patients to avoid hypoglycemia and the fear of hypoglycemia.

Method

We conducted the survey for patients with diabetes who visited seven tertiary referral centers in Korea from June, 2014 to June, 2015. The questions sought information about personal history, symptom, education experience, self-management and fear about hypoglycemia.

Results

In 758 participants enrolled, 471 patients (62.13%) have experienced hypoglycemia and 274 patients (36.14%) had recently experience of hypoglycaemia at least once in a month. 85(27.9%) patients have experience a lecture about hypoglycemia at least once (average 2.2 times). But only 19.4% of patients knew exactly the definition of hypoglycemia.

	ALL (n = 758)	Hypoglycemia (n = 471)	No Hypoglycemia (n = 279)	p
Age, years, mean(SD)	56.3 (13.7)	57.1 (13.7)	54.8 (13.6)	0.070
Sex				
male(No., %)	391 (51.5%)	237(50.3%)	150(53.7%)	
female	367 (48.4%)	234(49.7%)	129(46.3%)	
DM Duration, yrs, mean (SD)	11.8 (9.73)	13.9 (9.79)	8.2 (8.53)	0.002
Type				
Type 1 (No,%)	30(3.9)	26 (5.5)	4(1.4)	
Type 2	487(63.9)	300(63.6)	182(65.2)	
etc	241(28.7)	145(30.7)	93(33.3)	
HemoglobinA1c %, (SD)	8.3 + 2.2	8.5 + 2.3	8.0 + 2.1	0.270
Body mass index (kg/m ²)	24.0 + 3.7	23.6 + 3.7	24.7 + 3.6	0.853
Treatment (%)				
Life style modification	32(42%)	21 (4.4%)	11 (3.9%)	
OHA	350(46.1%)	170(36.0%)	177(63.4%)	
Insulin	115(15.2%)	84(17.8%)	30(10.7%)	
OHA + Insulin	242(32%)	188(39.9%)	52(18.6%)	
etc	19(2.5%)	8(1.6%)	9(3.2%)	

Table 1. Characteristics

Among the 12 correct hypoglycemic symptoms in questionnaire, most participants chose dizziness (55.01%), sweating (53.82%), and hunger (33.24%). To recover from hypoglycemia, 40% of patients ate something first and they mostly ate candy (62.13%), chocolate (37.73%) and juice (36.80%). 51% of participants did not tell about hypoglycemic events before their doctor asked. Participants who had experienced hypoglycemia had higher hemoglobin A1c, longer duration of diabetes and more use of insulin. Mean score of behavior to avoid hypoglycemia is 21.2 ± 10.71 and worry about hypoglycemia is 23.38 ± 13.19. These scores are higher than participants who had Hb A1c > 8% and insulin users.

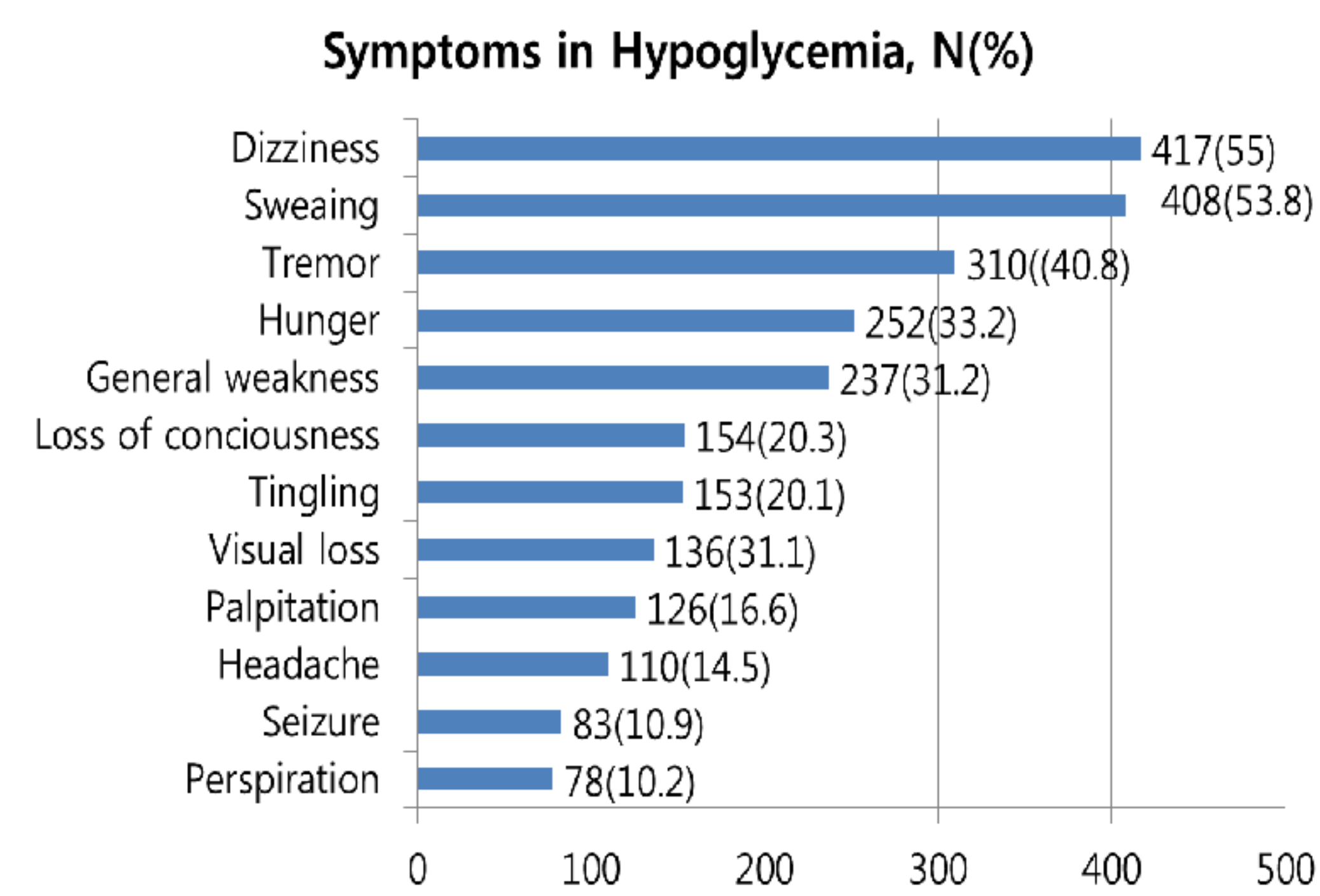


Figure 1. Symptoms in Hypoglycemia

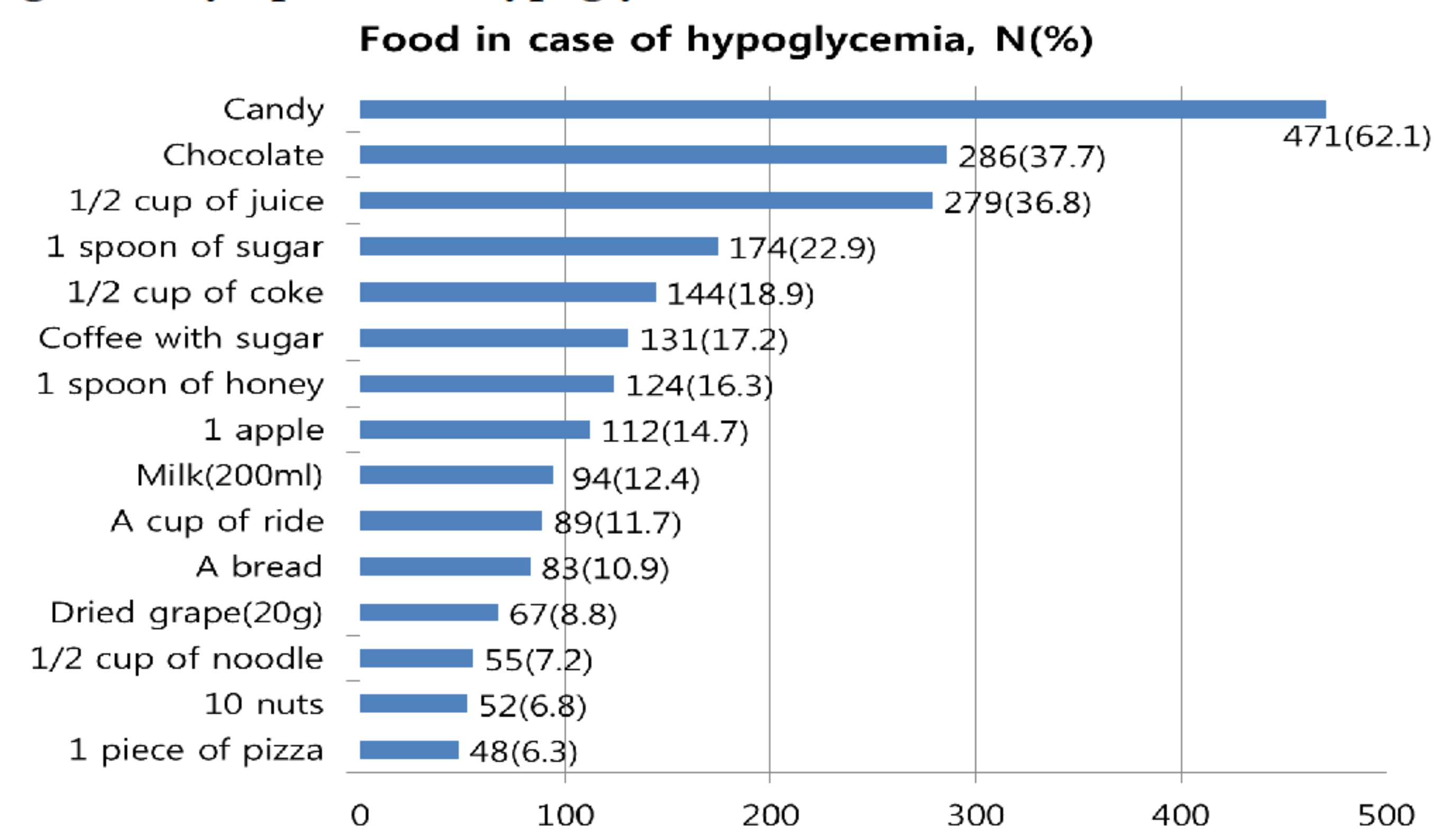


Figure 2. Food in case of hypoglycemia

	Behavior (SD)	P value	Fear (SD)	P value
	21.2(10.71)		23.38 (13.19)	
HbA1c ≥ 8	22.42 + 10.95	0.009	25.30 + 14.65	0.000
HbA1c < 8	19.42 + 9.80		21.13 + 10.59	

Table 2. Behavior and Fear score

Conclusion

Doctors should pay more attention to how anxious patients are about hypoglycaemia. We must educate patients about what to do when they feel hypoglycemic symptoms, especially for patients who have the higher chance to experience hypoglycemia