

The changing prevalence of health-risk behaviors among high school students in Okinawa, Japan, 2002-2008

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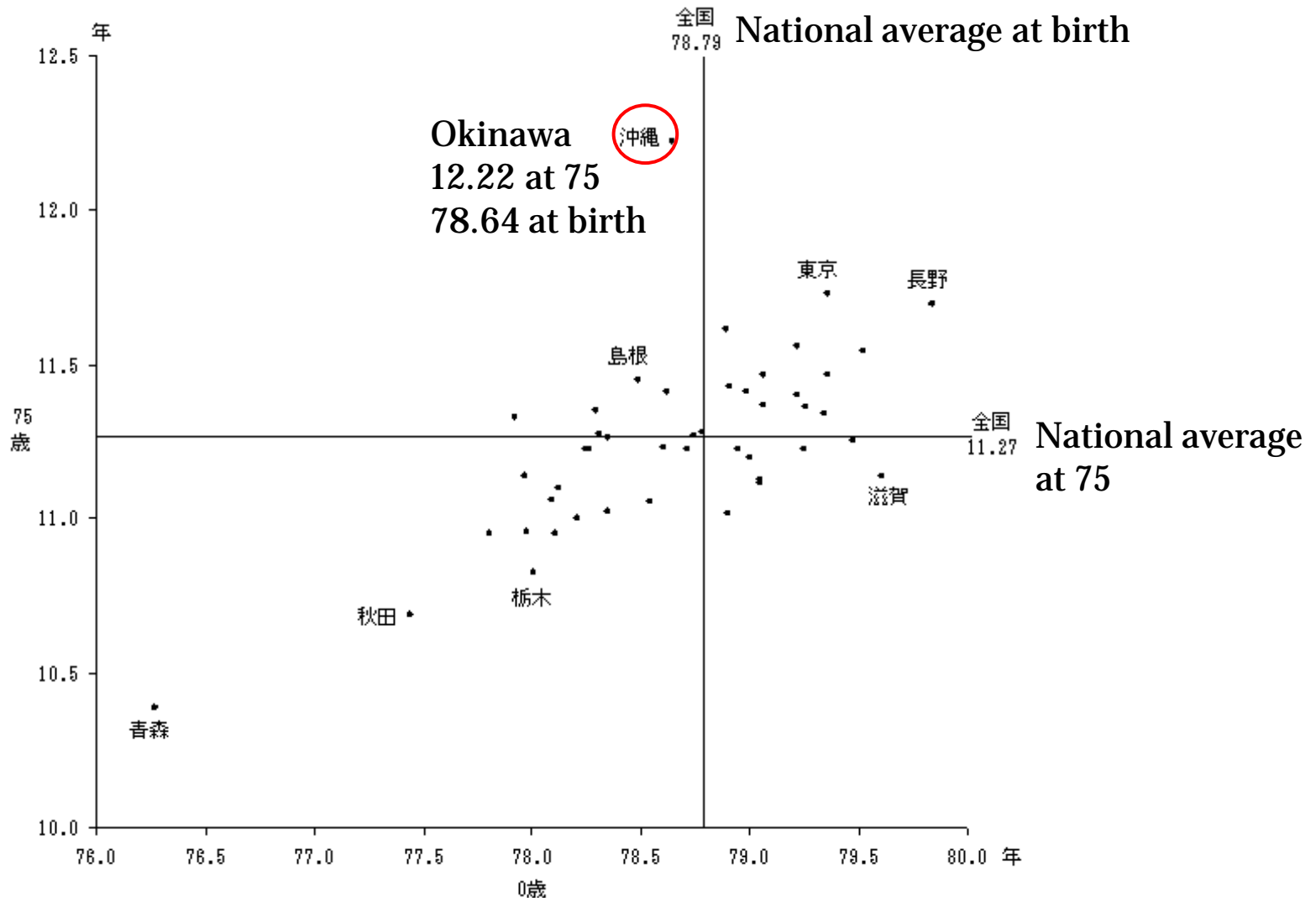
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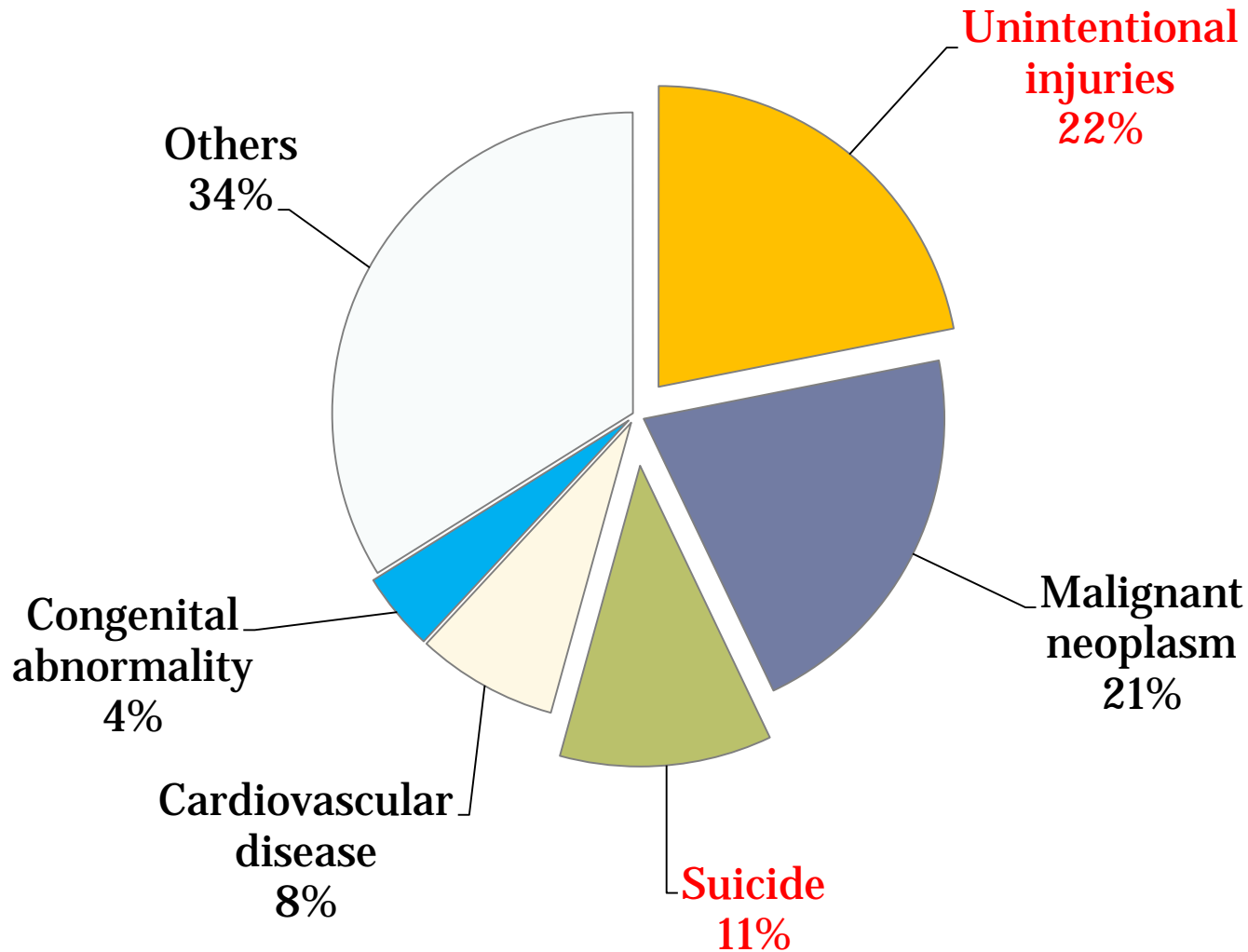
Background

- ▶ The burden of mortality and morbidity from **non-communicable diseases** has increased worldwide, whereas the burden from infectious diseases has declined.
- ▶ In 2010, 56% of all deaths in Japan were due to cancer (30%), cardiovascular diseases (16%), and cerebrovascular diseases (10%), that is, common non-communicable diseases related to unhealthy lifestyle.
- ▶ **Unhealthy lifestyle** includes tobacco, alcohol, and other drug use, risky driving, self-harm, unsafe sexual behaviors, unhealthy diet, physical inactivity, and so on.

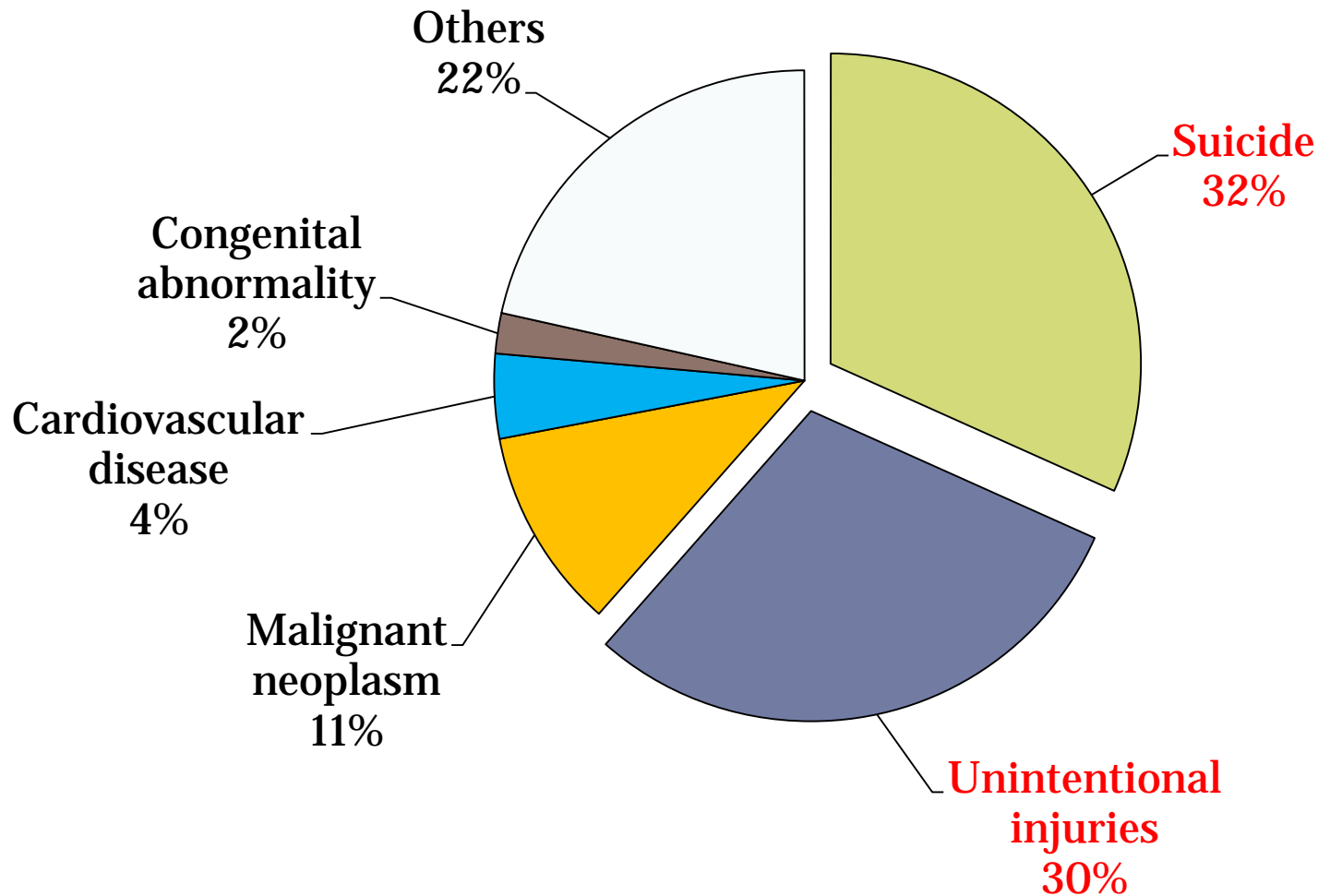
Comparison between **life expectancy at birth and at 75** in Japanese males



The leading causes of death among Japanese youth ages 10 to 14



The leading causes of death among Japanese youth ages 15 to 19



Background

- ▶ The leading causes of mortality and morbidity among youth and adults in Japan are associated with health-risk behaviors.
- ▶ US. CDC has classified priority health-risk behaviors among youth into six categories:
 1. Behaviors that contribute to unintentional injuries and violence
 2. Tobacco use
 3. Alcohol and other drug use
 4. Sexual behaviors that contribute to unintentional pregnancy and sexual transmitted disease
 5. Unhealthy dietary behaviors
 6. Physical inactivity

Background

- ▶ These risk behaviors are often established during youth, extend into adulthood, and are interrelated and preventable.
- ▶ In order to plan, implement, and evaluate effective prevention policies and programs, monitoring the prevalence and trends in health-risk behaviors among youth is important.
- ▶ However, there was no continuing survey regarding comprehensive health-risk behaviors among Japanese youth.
- ▶ Accordingly, we investigated **the recent trend in many health-risk behaviors among high school students in Okinawa**, Japan, during 2002-2008.

Methods

- ▶ We conducted 3 cross-sectional surveys in 2002, 2005, and 2008, using a self-administered anonymous questionnaire to obtain a wide range of health, sociodemographic and psychosocial information from students.
- ▶ The study sample of each survey consisted of **all students in a class in each of grades 10-12 (aged 15-18 years) enrolled in public high schools selected across Okinawa,** with a probability proportional to the number of schools.

Measures

- ▶ **Health-risk behaviors (questions were adapted from the YRBS)**
 - ▶ 7 questions for behaviors that contribute to injuries
 - ▶ 6 questions for tobacco smoking
 - ▶ 6 questions for alcohol and other drug use
 - ▶ 5 questions for sexual behaviors
 - ▶ 6 questions for dietary behaviors
- ▶ **To determine whether an actual change in the prevalence of health-risk behaviors has occurred over time, we used logistic regression analyses that assess the trends and control for grade, school type, and region.**

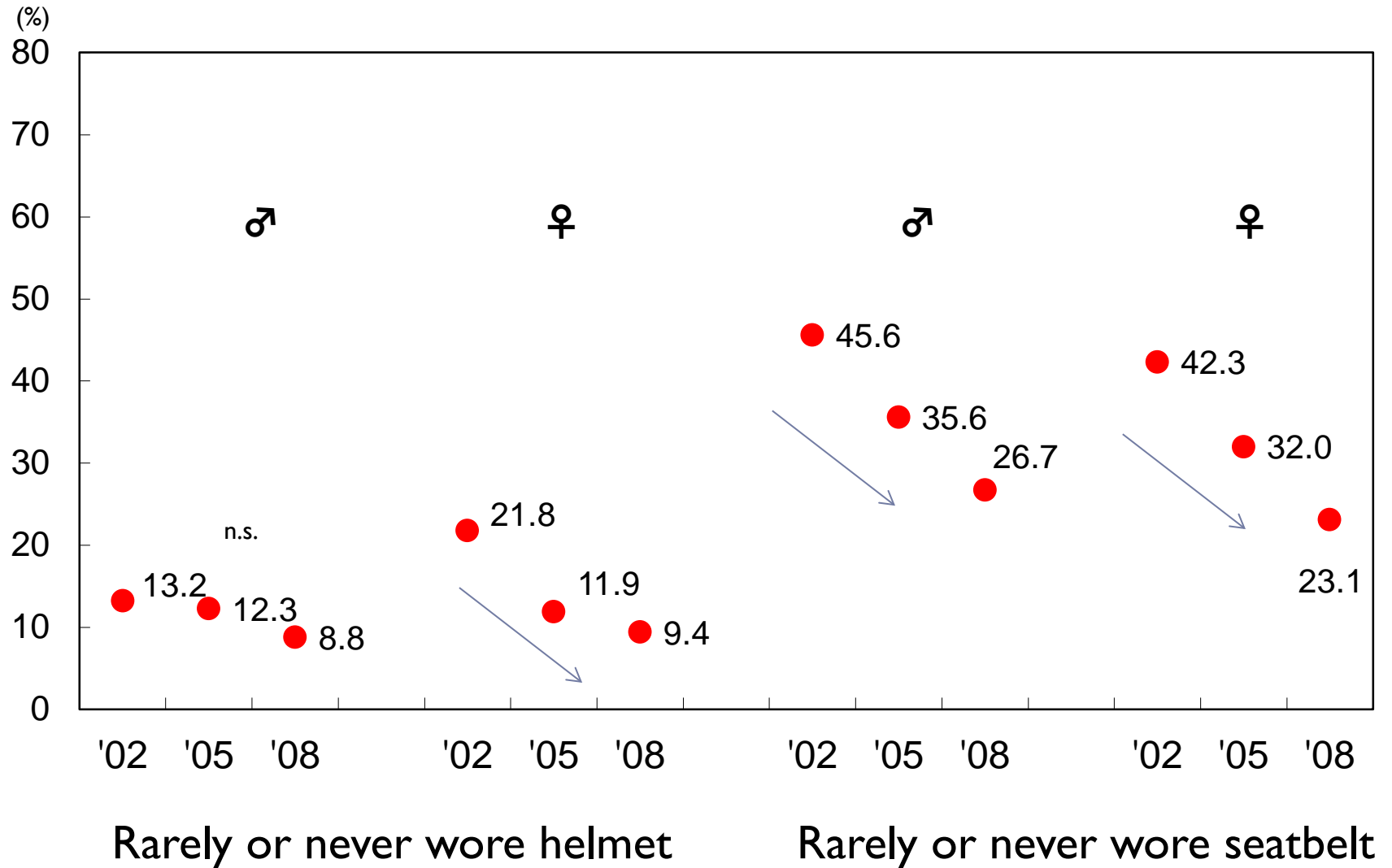
Table 1. Distributions of students by demographic characteristics.

		2002		2005		2008		p
		n	%	n	%	n	%	
Gender	Male	1219	48.0	1057	42.8	1424	50.0	<0.001
	Female	1321	52.0	1415	57.2	1426	50.0	
Grade	1st	903	35.6	874	35.4	993	34.8	0.535
	2nd	887	34.9	819	33.1	974	34.2	
	3rd	750	29.5	779	31.5	883	31.0	
School type	General HS	1729	68.1	1709	69.1	1896	66.5	0.122
	Vocational HS	811	31.9	763	30.9	954	33.5	
Region	Okinawa Island	2142	84.3	2055	83.1	2446	85.8	0.025
	Remote islands	398	15.7	417	16.9	404	14.2	
Total		2540	100.0	2472	100.0	2850	100.0	

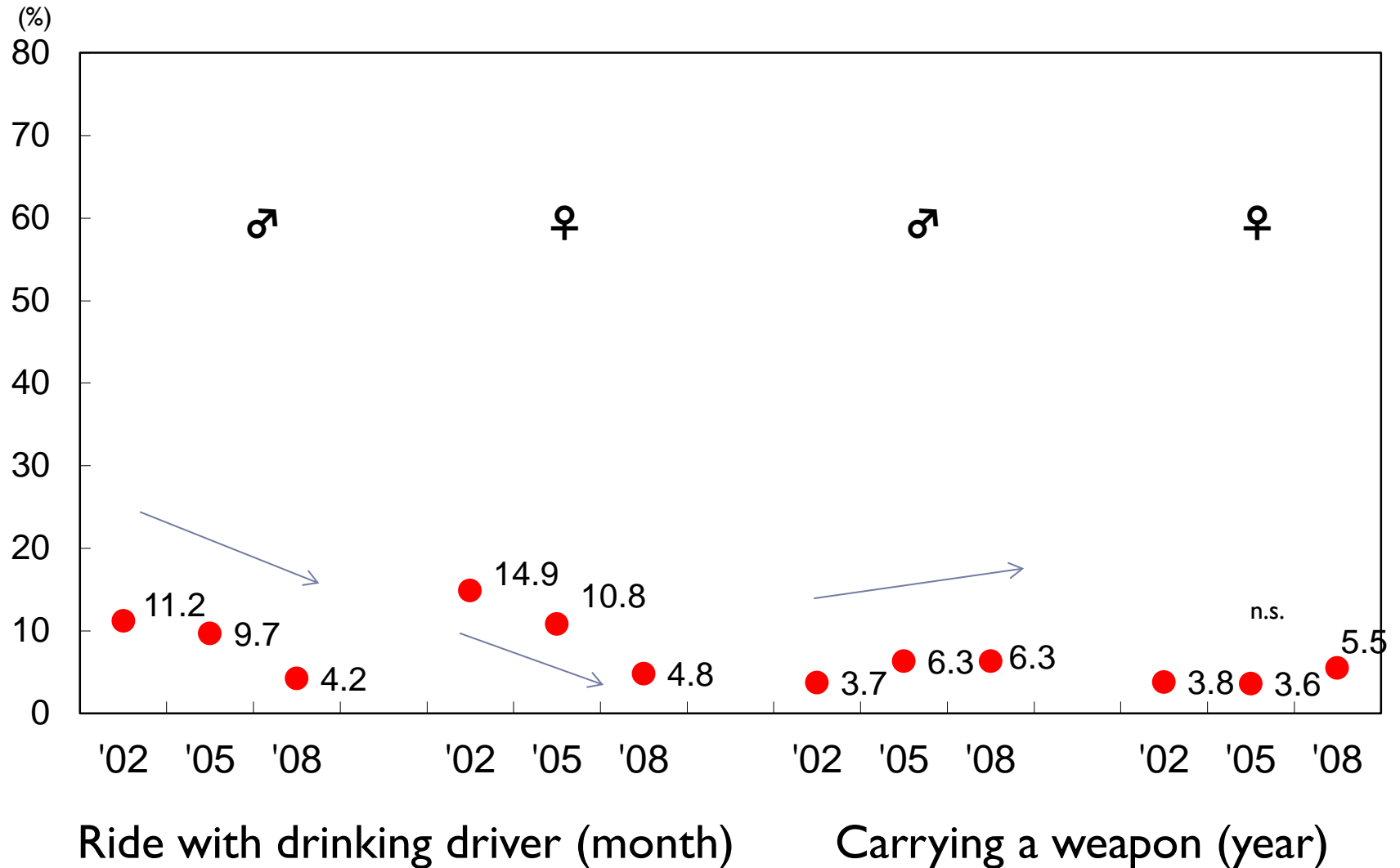
Results

- ▶ Overall, improvements in some health-risk behaviors were found between 2002 and 2008.
 - ▶ Behaviors contribute to injuries (safety driving)
 - ▶ Seat belt use, motorcycle helmet use (girls), and riding with a drinking driver
 - ▶ Tobacco use
 - ▶ Alcohol use
 - ▶ Sexual behaviors
 - ▶ Being sexually active, condom use
 - ▶ Unhealthy diet (girls)
- ▶ Conversely, having been offered, sold, and given an illegal drug and carrying a weapon among boys were getting worse.

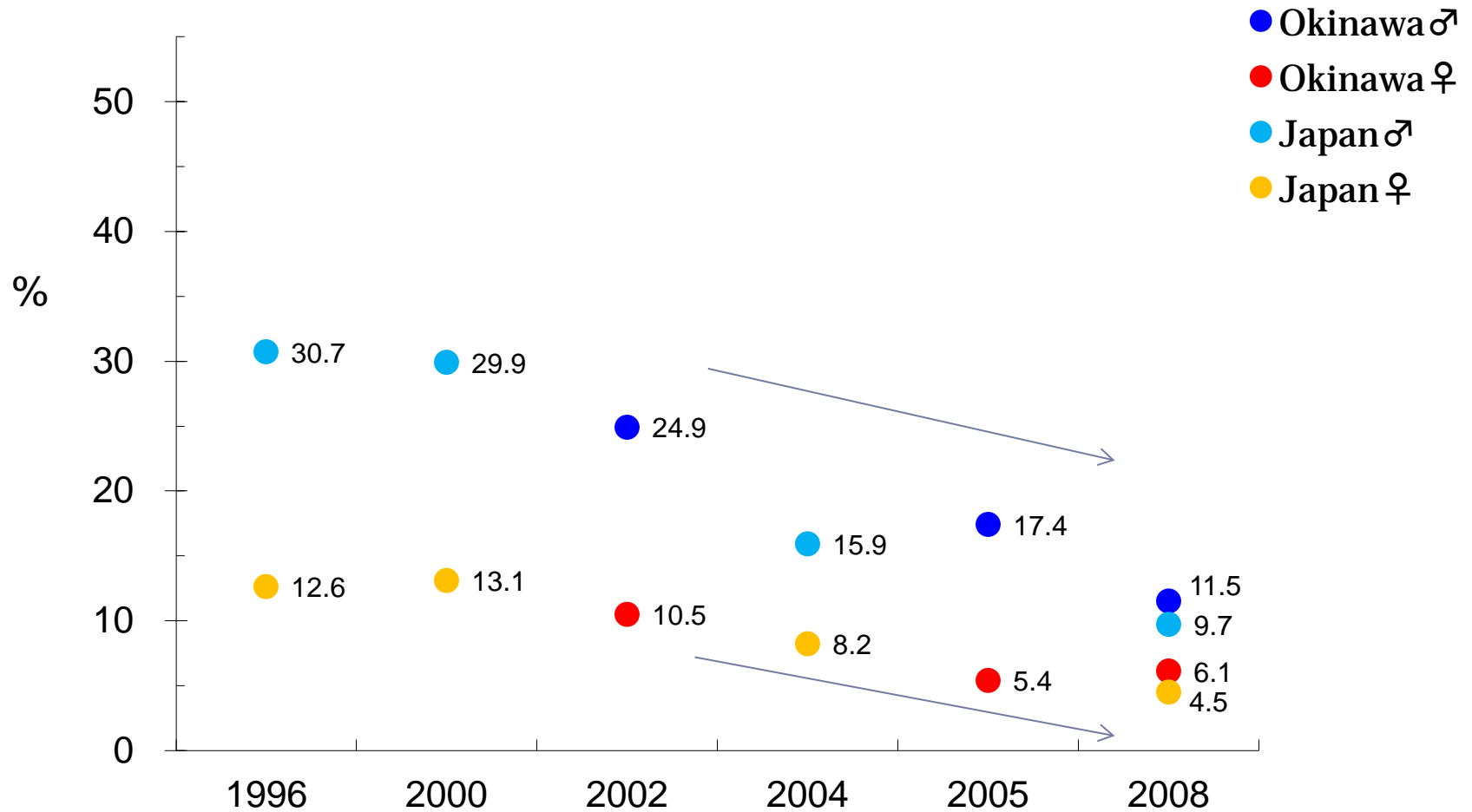
The prevalence of behaviors contribute to injuries



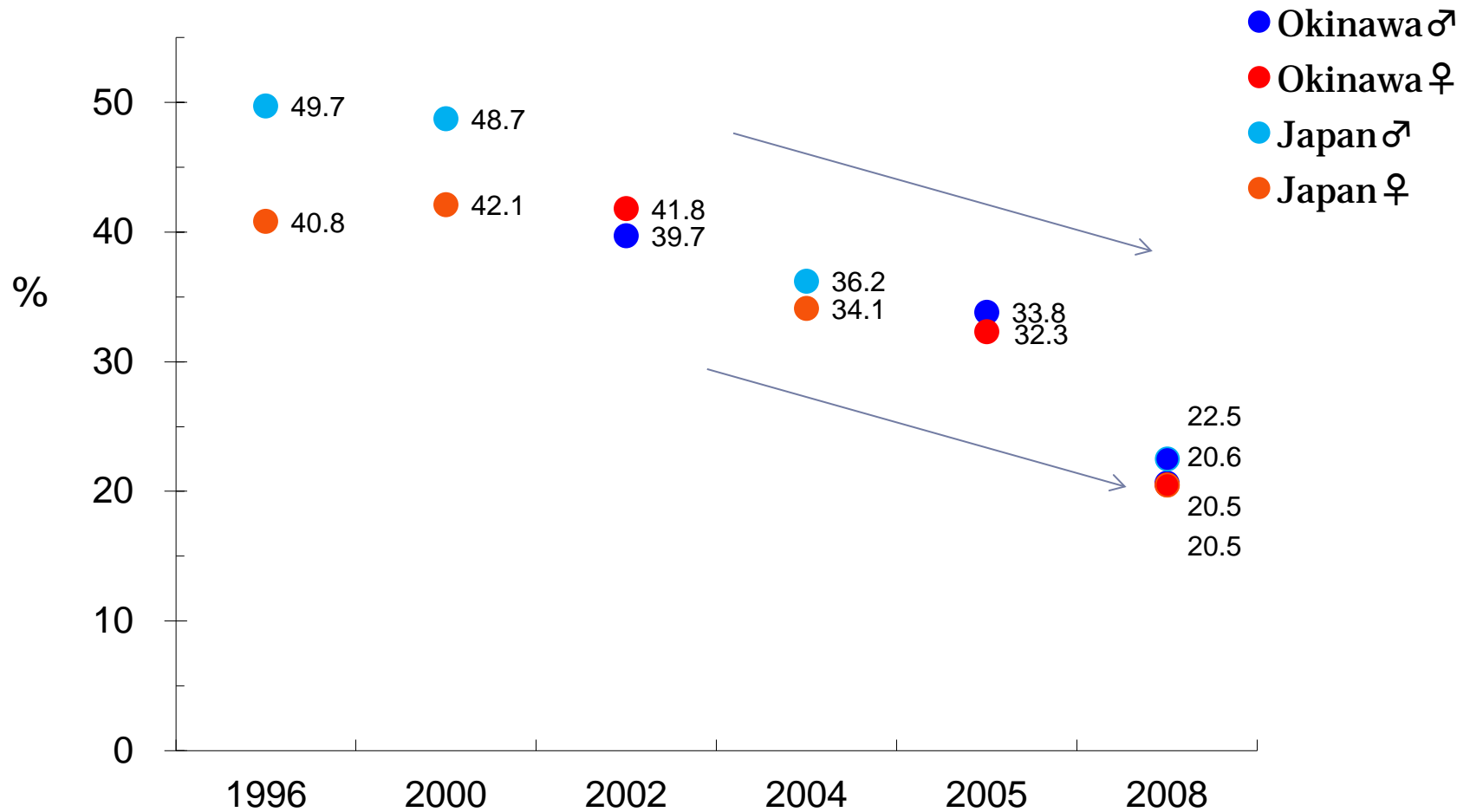
The prevalence of behaviors contribute to injuries



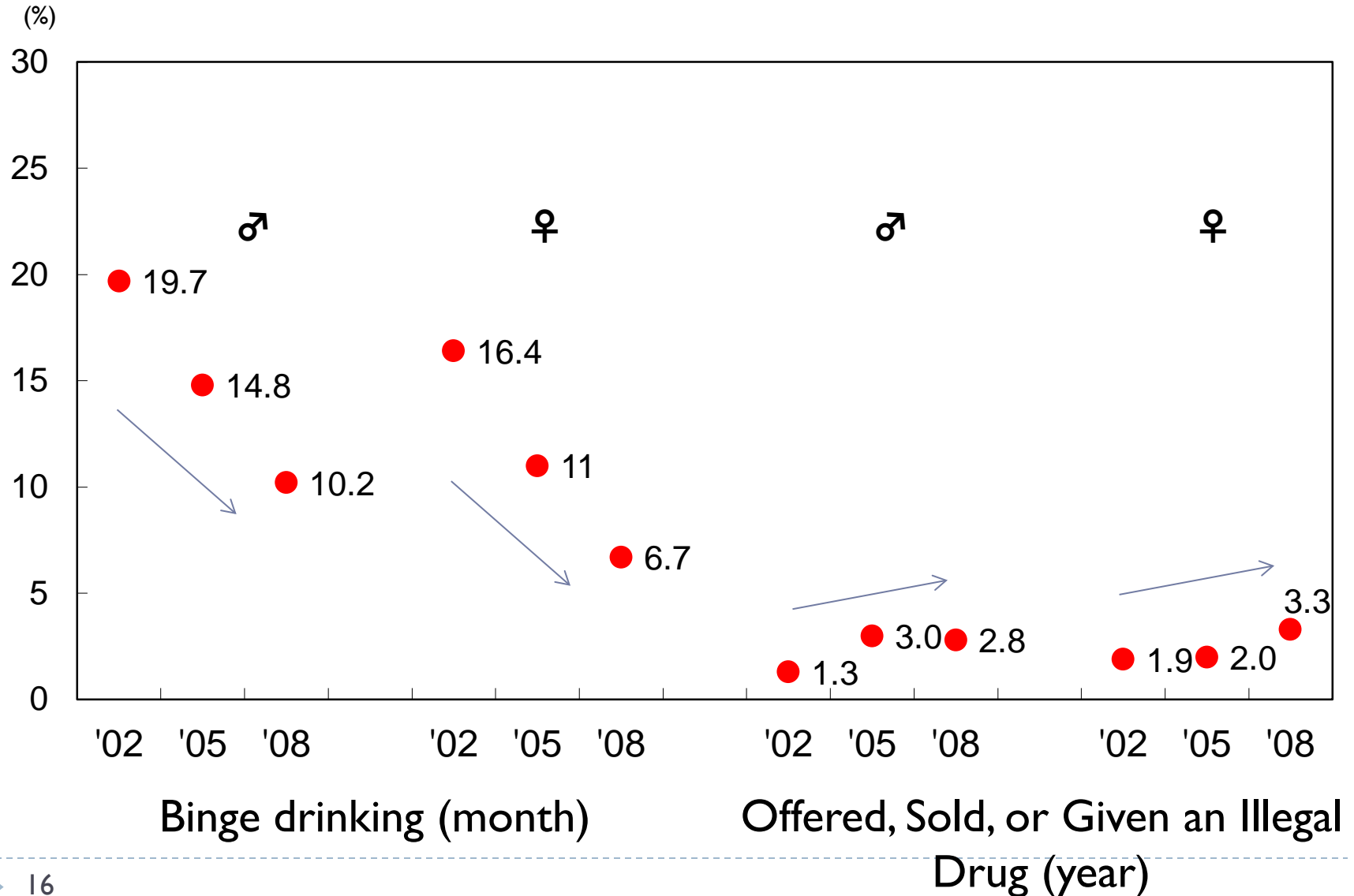
The prevalence of current cigarette use (month)



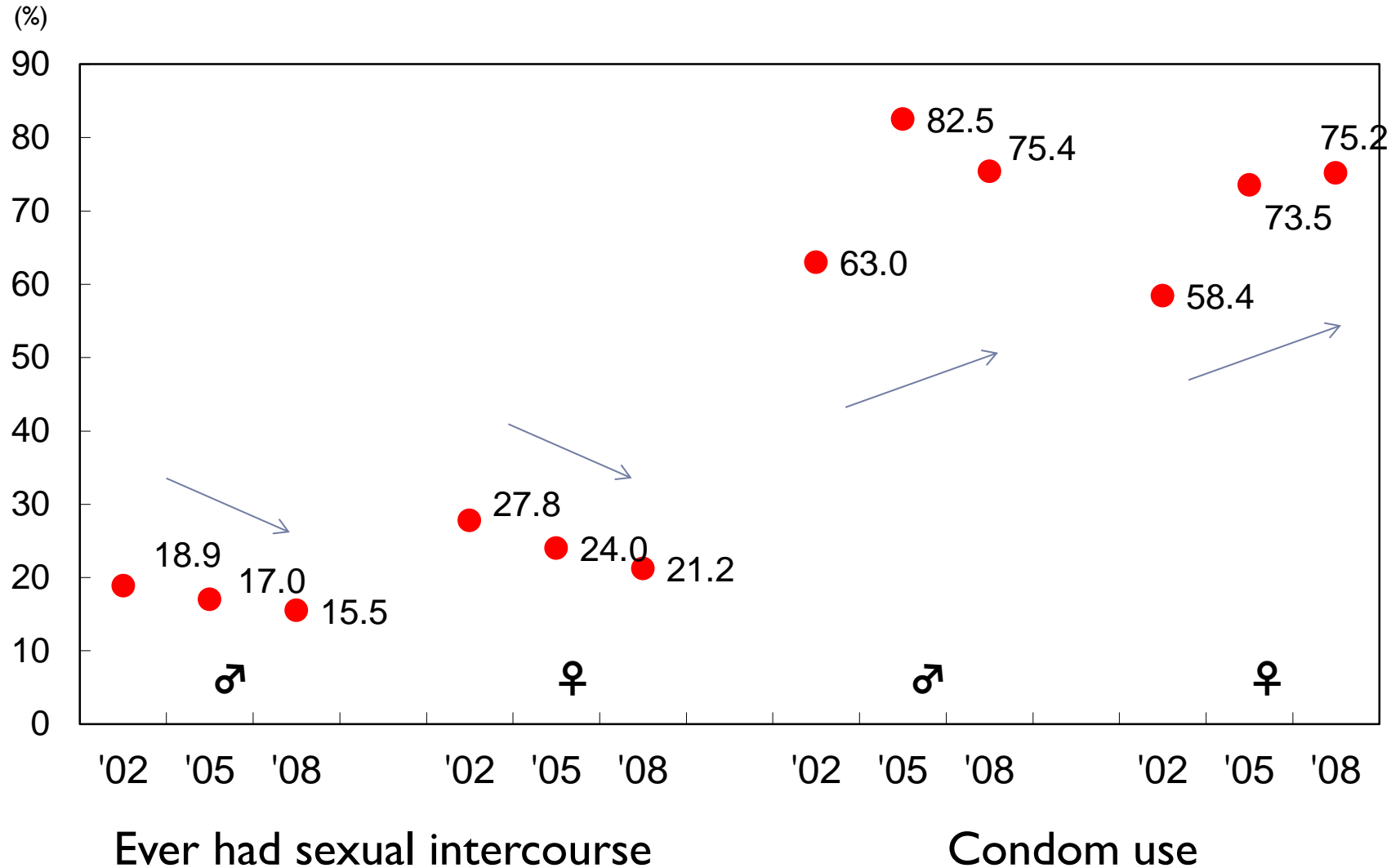
The prevalence of current alcohol use (month)



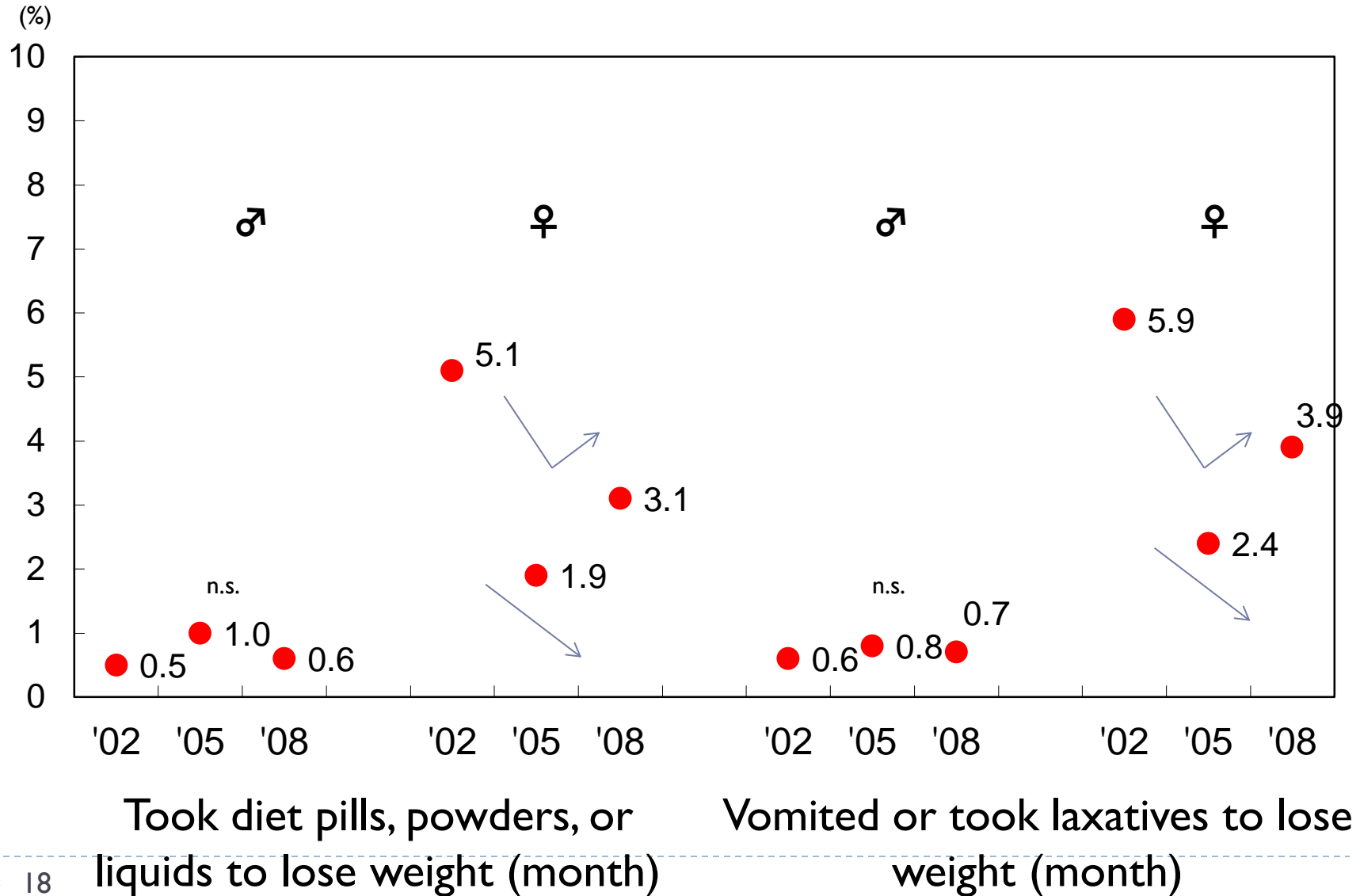
The prevalence of other alcohol and drug use



The prevalence of sexual behaviors



The prevalence of unhealthy diet



The reasons behind selected health-risk behaviors change 1

- ▶ **Behaviors contribute to injuries (safety driving)**
 - ▶ **Strengthening crackdown and enlightenment of the revised “Road Traffic Law”**
 - ▶ **In 2002, raise penalty for risky driving**
 - ▶ **In 2004, revision of penalty for cell-phone use while driving**
 - ▶ **In 2007, raise penalty for drinking driving and growing social norm of prevention drinking driving**
 - ▶ **In 2008, obligation of seat belt use in the backseat**

The reasons behind selected health-risk behaviors change 2

▶ Tobacco use

- ▶ Development and implementation of National Health Promotion Policy “Healthy Japan 21” and “Healthy Okinawa 2010”
- ▶ In 2003, enforcement of “passive smoking prevention” provided for in Article 25 of the “Health Promotion Act”
 - ▶ Smoking bans on school property or public spaces
- ▶ In 2003, 2006, 2010, increase in retail price of cigarettes
- ▶ A decrease in smoking prevalence of their father and older brothers, and an increase in the proportion of those who had no friend might contribute to decreasing trend in adolescent smoking (Osaki et al., 2008).

The reasons behind selected health-risk behaviors change 3

▶ Alcohol use

- ▶ Revision of the “Act to Prohibit Minors from Drinking” and the “Liquor Tax Law”
 - ▶ In 2000, strengthening penalty for selling alcohol beverages to minors and the revocation of a liquor license from liquor retailers be against the Act to Prohibit Minors from Drinking
 - ▶ In 2001, reinforcement of the age confirmation by the liquor distributors
- ▶ In 2007, raise penalty for drinking driving and growing the relevant social norm against drinking driving
- ▶ Similar to smoking, a decrease in drinking prevalence of their father and older brothers, and an increase in the proportion of those who had no friend might contribute to decreasing trend in adolescent drinking (Osaki et al., 2009).

The reasons behind selected health-risk behaviors change 4

▶ Sexual experience

- ▶ School-based sex education and enlightenment activities for HIV/AIDS prevention by the local authorities might contribute to the decrease in the prevalence of having had sexual intercourse.

▶ Condom use

- ▶ In 2002, addressing AIDS/STD as a type of infectious disease and the effectiveness of condom use to the prevention were added in the contents of “Health” in the course of study of junior high school. Then, the learning effect on these contents might be established in high school students.

▶ Unhealthy diet

- ▶ After 2002, since health hazards of “health foods” such as Chinese-made diet aids were often reported, many girls might hesitate to use those diet aids.

Conclusion

- ▶ This study shows that overall some health-risk behaviors among high school students in Okinawa improved between 2002 and 2008.
- ▶ The improvement of health-risk behaviors may be due to revisions of law and changes in social environment, as well as school-based health education.
- ▶ It seems that the population approach, which aims to control the determinants of health toward lower levels of risk exposure in the entire population, would be effective and important to improve health in youth population.

Thank you for your attention.

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