

## Trends in HIV/AIDS Awareness among University Students in Japan

*Dr. Takemi Fujikawa*

Faculty of Economics, Otemon Gakuin University

2-1-15 Nishiai, Ibaraki City, Osaka567-8502, JAPAN; E-mail: takemi@office.otemon.ac.jp

*Dr. Kazuhito Ogawa* (Correspondence Author)

Faculty of Sociology, Kansai University,

564-8680 3-3-35, Yamate-cho, Suita, Osaka, JAPAN

E-mail: kz-ogawa@kansai-u.ac.jp Home-page: www2.itc.kansai-u.ac.jp/~t110032/index.html

**Abstract:** The current study aims to examine the current level of Japanese students' awareness towards, and understanding of AIDS and its-related diseases. In the current survey, 406 undergraduates in Japan answered questions on awareness and perceptions of various AIDS-related issues, including free AIDS testing, AIDS transmission and roles of medias in disseminating AIDS-related information. The main findings are: (1) Less than half of the respondents had correct knowledge and understanding on modes of AIDS transmission, such as mother-to-child transmission and transmission via tooth brush sharing; (2) Despite current Internet-savvy young generation, the respondents ranked TV and education at schools respectively as the first and second most preferred sources of information on AIDS, while the Internet lagged behind. It shows that there is discrepancy between current and previous observations of the respondents' highly-valued information on AIDS and its-related issues.

**JEL Classifications:** D03, I13, I10

**Keywords:** AIDS, Health education, Questionnaire Design, Japanese students

### 1. Introduction

There has been an increasing number of people, both living with and dying from HIV/AIDS in Japan<sup>1</sup>. Among the developed nations, Japan is the only country that has been unable to stop the trend of increase of new HIV cases each year<sup>2</sup>. Holzemer (2008) predicts that the HIV epidemic is growing in Japan and will substantially increase over the next few years. In the intervening decade, Japan has experienced rapid growth in the number of HIV-infected people. Of serious concern is the growing rate of a younger generation being infected with HIV.

The AIDS epidemic has continued to grow despite numerous, massive and prolonged attempts by international and local agencies (e.g., charities, business organizations, governmental authorities and non-governmental organizations (NGOs)) to halt the spread of AIDS. One asserts that the AIDS

---

<sup>1</sup> See <http://api-net.jfap.or.jp/status/2012/12nenpo/h24gaiyo.pdf>.

<sup>2</sup> See [http://www.aidssti.com/m\\_006\\_002.html](http://www.aidssti.com/m_006_002.html).

epidemic in Japan is associated with lack of education and information on HIV/AIDS. For example, since 1987, the Japanese cabinet office had released the results of the survey-based studies, entitled "Opinion Poll in regard to AIDS" conducted by the Cabinet Office of Japan (1987, 1991, 1995, 2000). Since the Cabinet Office of Japan (2000), however, neither the Cabinet Office nor the Ministry of Health, Labor and Welfare has conducted such a poll on AIDS.

The current study aims to delineate the extent and current level of a Japanese university students' awareness towards, and understanding of HIV/AIDS and its-related diseases. For this aim, we shall describe a current survey that builds upon findings from the said previous survey-based studies. In the current survey, undergraduates in Japan answered questions on awareness and perceptions of various AIDS-related issues, including issues on free HIV checkups, AIDS transmission and roles of medias in disseminating AIDS-related information.

Such kind of survey has been conducted by The Japanese Association for Sex Education (2007, 2013). This survey covers from elementary school students to university students. However, it does not contain questions on HIV test. Kihara (2006) utilizes her own surveys, survey results from white books and HIV/AIDS surveillance in Japan and proposes how to protect infection of HIV in Japanese teens. In other countries, some studies (Carpenter, 2005; Lammers and Wijnbergen, 2007; Cooper, 2002; Chesson, et al., 2006) investigate the relationship between economic behavior (risk attitude and time preference) and sexual behavior. These studies helps the government make policies such as Nudge (Thaler and Sunstein, 2008).

## **2. Method**

### **2.1 Respondents**

This study is part of the research project commissioned by Higashi Osaka City Council that approached universities that were located in the city and the neighboring city (Daito City): Four universities agreed to participate in this study in accordance with the research requirements. Respondents were 406 Japanese undergraduates: They were predominately male (84%) with ages ranging from 18 to 24 years ( $M=19.36$ ;  $SD=1.18$ ). Each of the four universities was visited individually, where 406 undergraduates completed the questionnaire.

### **2.2 Questionnaire**

People who agreed to participate in this study were asked to answer a multi-fold questionnaire (in Japanese): A first section of the questionnaire was related to basic demographic characteristics (i.e., sex, age and relationship status). A second section of the questionnaire was designed to assess knowledge of AIDS. This section involved questions on current AIDS-related issues in Japan, AIDS awareness and AIDS prevention.

### **2.3 Data Collection**

Each respondent signed an informed-consent agreement to acknowledge that their participation was voluntary, anonymous and that responses remained confidential. No more than 30 minutes were taken in order for the respondents to complete the survey. On completion of the survey, each respondent received a gift voucher worth 500 Yen (about 6 US dollars at the time of the survey) as well as one set of promotional materials produced by Healthcare and Welfare Division, Higashi Osaka City Council. These materials included a single condom and advocacy pamphlet on HIV/AIDS.

### 3. Results

#### 3.1 The Awareness of Modes of AIDS Transmission

Both the respondents in The Cabinet Office of Japan (5) (hereafter referred to as the previous respondents) and the respondents in the current study (hereafter referred to as the current respondents) were asked whether they had ever heard of or seen anything on AIDS. An overwhelming majority (96.6%, N=406) of the current respondents replied in the affirmative. This trend towards the high level of familiarity is same as it was exhibited by the previous respondents.

Almost all (94.3%, N=405) of the current respondents answered in the affirmative a question on one mode of AIDS transmission. It asked the respondents whether they had a knowledge that there is the chance of getting AIDS through sexual intercourse with infected persons.

The current results show the same tendency with that presented in The Cabinet Office of Japan (5) in which 96.4% (N=3,483) of the previous respondents answered in the affirmative the same question. However, the chi-square test revealed that the difference between these two percentages was significant at the one percent confidence level.

The following four questions were also replicated from the said earlier study to show a comparison between the current and past awareness on other modes of AIDS transmission. The first question asked whether the respondents know that there is the chance of getting AIDS through sharing the same tooth brush or razors with infected persons. Less than half (47.9%, N=403) of the current respondents answered in the affirmative, whereas 61.2% (N=2,132) of the previous respondents did so. The chi-square test of the difference was statistically significant at the one percent confidence level. The second question asked whether the respondents know that there is the chance of getting AIDS through sharing needles with infected persons. A large majority (84.6%, N=403) of the current respondents answered in the affirmative as in the previous study, where 88.8% (N=3,093) of the previous respondents answered so. The chi-square test showed a significant difference at the one percent confidence level.

The third and fourth questions asked the respondents to give their understanding on mother-to-child AIDS transmission.

The third question asked whether the respondents know that there is the chance of getting AIDS through breastfeeding by an infected mother. Overall, 44.2% (N=403) of the current respondents answered in the affirmative, while 51.5% (N=3,483) of the previous respondents did so. The chi-square test showed a significant difference in these two percentages at the one percent confidence level.

The fourth question asked whether the respondents know that there is the chance of AIDS transmission from an infected mother to her infant during labor and delivery. More than half (60.8%, N=403) of the current respondents answered in the affirmative, while 68.4% (N=3,483) of the previous respondents did so. The chi-square test revealed that the difference between these two percentages was significant at the one percent confidence level.

#### 3.2 Public Conveyance of AIDS-related Information

The respondents partook in a question on public conveyance of AIDS-related information: "Indicate, among a list of information items, whether you wish to obtain each of them. Select as many as you wish, or none of the items." The first column of Table 1 shows the information items; the second column shows the number of the current respondents who selected them and; the last column shows the rank by the total number of the current respondents.

The current and previous results shall identify the respondents' highly-valued information on AIDS and its-related issues. The current and previous results constitute observation of the order of the four top-ranked items. As we can see from Table 1, the current respondents' most frequent answer was "information on therapy and treatment for AIDS", followed by "information on methods of AIDS prevention". Their third most frequent answer was "information on symptoms of AIDS-induced illness"; the fourth most was "information on current AIDS epidemic conditions" and; the fifth most frequent answer was "information on the test for AIDS". More than 200 of the current respondents expressed that they were eager to obtain the said four top-ranked items of the information.

**Table 1** Frequently requested information on AIDS

Items	Current		Previous	
	Population	Rank	Population	Rank
Symptoms of AIDS-induced illness	214	3	1073	4
Current AIDS epidemic conditions	213	4	1170	3
Methods of AIDS prevention	237	2	1501	1
Therapy and treatment for AIDS	252	1	1278	2
Consultation/counseling service	74	8	697	8
Test for AIDS	170	5	714	7
Location of medical providers	77	7	644	9
Activities provided by private and voluntary organizations, including non-governmental organizations (NGOs)	27	10	268	11
Research on AIDS	64	8	759	6
AIDS prevention programmes	64	8	864	5
Other information on AIDS	146	6	70	12
Don't know	11	11	369	10

**Note:** Previous data are re-calculated from Table 24 in *Eizu ni Kansuru Yoron Chosa (Opinion Poll of 2000 in regard to AIDS)*.

On the other hand, the previous respondents' most frequent answer was "information on methods of AIDS prevention", followed by "information on therapy and treatment for AIDS". Their third most frequent answer was "information on current AIDS epidemic conditions"; the fourth most was "information on symptoms of AIDS-induced illness" and; the fifth most frequent answer was "information on AIDS prevention programmes".

As shown above, there is discrepancy between current and previous observations of the highly-valued information on AIDS and its-related issues. The current and previous respondents indicated the same items ranked among the top four items of the information. There is a statistically significant difference, at the 10% level, in a rank ordering of the four top-ranked items between the current and previous studies. The fifth most frequent answer is different in both studies as it is "information on tests for AIDS" and "information on AIDS prevention programmes" in the current and previous studies, respectively.

### 3.3 Preferred Sources of AIDS-related Information

The respondents partook in a question on preferred sources of information on AIDS: "Indicate, among a list of information items, what conduits for information on AIDS you think desirable. Select as many as you wish, or none of the items." As we can see from Table 2, the current respondents ranked "TV", "education at schools", "internet", "books and magazines" and

"newspapers" in order of their first, second, third, fourth and fifth choice. On the contrary, the previous respondents ranked "TV", "education at schools", "newspapers", "books and magazines" and "PR brochures". In both the current and previous studies, "TV" was the first preferred source of AIDS-related information, while "education at schools" was the second preferred. However, there is a statistically significant difference in third, fourth and fifth choices between the current and previous studies. It is highly likely that people who use the internet to find information on AIDS engage in less risky sexual behavior than non-internet users. The current results support previous suggestion that traditional prevention approaches and programmes that are designed to target high-risk people may no longer be most suitable for internet interventions. Results of the previous survey conducted in Hong et al. (2011) showed that two thirds of Internet-using female sex workers were willing to participate in online HIV prevention programmes. One can hardly refute it saying that younger generation cannot live without Internet. However, Smith (2011) revealed that the majority of her survey respondents, who were undergraduates, did not know how to properly search for online health information. Policy makers in Japan should take note that an innovative online/web-based campaign can attract the Internet-savvy younger generation, leading the way to convey information on AIDS-related issues.

**Table2 Preferred Sources of Information on AIDS**

Items	Current		Previous	
	Population	Rank	Population	Rank
TV	235	1	2557	1
Radio	44	11	1734	2
Newspapers	103	5	1710	3
Books and magazines	150	4	805	4
PR brochures	51	10	690	5
Posters	84	7	543	6
Pamphlets	78	8	529	7
Internet	196	3	456	8
Seminar and assembly meetings	85	6	453	9
Education at schools	211	2	442	10
Activities by private organizations	57	9	244	11
Others	5	13	14	13
Don't know	15	12	87	12

**Note:** Previous data are re-calculated from Table 25 in Eizu ni Kansuru Yoron Chosa (Opinion Poll of 2000 in regard to AIDS).

From a behavioral economic perspective, it is important that the choice architecture (9) should be designed or changed so that younger people can voluntarily obtain the information on AIDS-related issues. In so doing, it will be effective to utilize "education at school", where students can thrive in the information. Furthermore, it will be also effective to utilize a popular web site (such as Yahoo! and Google), social networking site (such as Facebook and Twitter) and academic web site (such as university web sites) in disseminating AIDS-related information among younger people and students. One can argue that it is effective if these web sites display active links on the information. Another can argue that it is effective if an university web site displays the information and links to sites, containing the information on AIDS-related issues, every time students login to an university web portal.

### 3.4 Mass Dissemination of Information on HIV Checkups

The respondents were assigned to a question on HIV checkups: “Do you know that local health and welfare offices (LHWOs) have been offering free and anonymous HIV checkups?” Table 3 summarizes responses to this question by the current 404 respondents and previous 3483 respondents. Approximately 30% of the current respondents gave the correct answer that HIV checkup is free and anonymous at LHWOs, while 21.8% of the previous respondents had done so. Both the current and previous results showed the trend that only a minority of the current (7.2%) and previous (5.1%) respondents were aware that the checkup is free.

**Table 3** Public Awareness on HIV checkup

Answer Statements	Proportion (%)	
	Current	Previous
I know that the checkup is anonymous.	25	27.1
I know that the checkup is free.	7.2	5.1
I know that the checkup is anonymous and free.	30.8	21.8
I don't know that the checkup is anonymous and free.	33.7	44.4
I don't know anything about the checkup.	3.7	1.6

**Note:** The proportion difference is significant at 1% confidence level (chi-square test). Previous data are from Table 26 in *Eizu ni Kansuru Yoron Chosa (Opinion Poll of 2000 in regard to AIDS)*.

We can see that only 37.7% (= 30.5% + 7.2%) of the current respondents were aware that the checkup is offered free of charge. The current results offer an important springboard for dissemination of the information on free AIDS checkup available at LHWOs. For example, one looks at people who admit to high level worry regarding AIDS infection but lack the information on free AIDS checkup. It is somewhat likely for them to abstain from checkup, as they think that it is costly and thus daunting to do checkup. Of particular note is the observation that a significantly lower percentage (33.7%) of the respondents in the current study than in the previous study (44.4%) indicated that they did not know that the checkup is anonymous and free.

### 3.5 Services to be Enhanced in the Development of HIV Checkups

The respondents answered a question: “What services do you think LHWOs should provide in the development of HIV checkup services at LHWOs? Select as many as you wish, or none of the items.” As illustrated in Table 4, the current respondents ranked “ensuring privacy and confidentiality during checkup” as the highest priority, as the previous respondents did so too. However, there is a statistically significant difference in the second, third, fourth and fifth highest items ranked by the current and previous respondents: The previous respondents ranked “offering adequate explanations by professional staff”, “offering appropriate management by professional staff”, “offering checkup on Sundays and public holidays” and “providing referral services connecting you with appropriate medical practitioners” in order of their second, third, fourth and fifth choice.

**Table 4** Desirable services to be offered by LHWOs in the development of HIV checkup

Items	Current		Previous	
	Population	Rank	Population	Rank
Disseminating of information on location of LHWOs	177	2	432	9
Ensuring privacy and confidentiality during testing	231	1	2257	1
Extending opening hours for testing	58	9	467	8
Extending the number of days of operation for testing	85	6	568	7
Offering after hours testing services	87	5	658	6
Offering testing on Sundays and public holidays	83	7	829	4
Offering appropriate management by professional staff	164	4	1097	3
Offering adequate explanations by professional staff	169	3	1362	2
Organizing lectures and assembly meetings on testing	24	11	--	--
Providing referral services connecting you with appropriate medical practitioners	72	8	818	5
Other services	3	12	49	11
Don't know	52	10	359	10

**Note:** Previous data are re-calculated from Table 27 in *Eizu ni Kansuru Yoron Chosa (Opinion Poll of 2000 in regard to AIDS)*.

A total of 177 current respondents ranked “disseminating of information on location of LHWOs” as the second most desirable service to be offered by LHWOs. The current results imply that the information on the location should still be made more accessible to those people with high-level of risky sexual behavior so as to facilitate easier access to free and anonymous HIV checkups available at LHWOs. The mass media should publicize basic information on AIDS-related issues, such as location of LHWOs, through television programmes, youth magazines and newspaper advertisements.

## 4. Conclusion

The current study complements previous survey research (The Cabinet Office of Japan, 2000) on awareness of AIDS-related issues as, since 2001, there has no national survey-based study reported by the Ministry of Health, Labor and Welfare, and the Cabinet Office of Japan.

The results of the current study may be of interest to several parties involved at different levels, to wit, policy makers and related ministries. The current results may provide them with a framework in implementing strategies and policies on AIDS/HIV. One hopes to expand the current study to a larger scale in different countries in the future, so as to promote new approaches to preventing the global spread of AIDS and HIV.

**Acknowledgement:** We are grateful to Healthcare and Welfare Division, Higashi Osaka City Council for their support of this study.

## References

- [1] Carpenter C. (2005), “Youth alcohol use and risky sexual behavior: evidence from underage drunk driving laws”, *Journal of Health Economics*, 24(3): 613–628
- [2] Chesson, H. W., Jami S. Leichliter, Gregory D. Zimet, Susan L. Rosenthal, David I. Bernstein, and Kenneth H. Fife (2006), “Discount rates and risky sexual behaviors among teenagers and young adults”, *Journal of Risk and Uncertainty*, 32(3):217–230.
- [3] Cooper Lynne M. (2002), “Alcohol Use and Risky Sexual Behavior among College Students and Youth: Evaluating the Evidence”, *Journal of Studies on Alcohol and Drugs*, Supplement No. 14, pp.101-117.
- [4] Holzemer, W. L. (2008), “HIV Infection: Fear of Contagion, Reality of Risk”, *Japan Journal of Nursing Science*, 5(1): 5–8.
- [5] Hong, Y., X. Li, X. Fang, X. Lin, and C. Zhang. (2011), “Internet Use Among Female Sex Workers in China: Implications for HIV/STI Prevention”, *AIDS Behavior*; 15(2): 273–282.
- [6] Kihara, M. (2006), *Ju-dai no sei koudou to Nihon syakai (Sexual behavior in Japanese teens and Japanese society)*, (in Japanese), Minerva.
- [7] Lammers J., Sweder van Wijnbergen (2007), “HIV/AIDS, Risk Aversion and Intertemporal Choice”, *Tinbergen Institute Discussion Papers*, Working paper No. 07-098/1.
- [8] Rosenberger, J. G., M. Reece, D. S. Novak, and K. H. Mayer (2011), “The Internet as a Valuable Tool for Promoting a New Framework for Sexual Health among Gay Men and Other Men Who Have Sex with Men”, *AIDS Behavior*, 15: S88–S90. doi: <http://dx.doi.org/10.1007/s10461-011-9897-y>.
- [9] Smith, K. (2011), “Anxiety, Knowledge and Help: A Model for How Black and White College Students Search for HIV/AIDS Information on the Internet”, *The Qualitative Report*, 16(1): 103–125.
- [10] Thaler, R. H. and C. R. Sunstein (2008), *Nudge: Improving Decisions About Health, Wealth, and Happiness*, New Heaven: Yale University Press.
- [11] The Cabinet Office of Japan (1987), *1987 Eizu ni Kansuru Yoron Chosa (Opinion Poll of 1987 in regard to AIDS)*.
- [12] The Cabinet Office of Japan (1991), *1991 Eizu ni Kansuru Yoron Chosa (Opinion Poll of 1991 in regard to AIDS)*.
- [13] The Cabinet Office of Japan (1995), *1995 Eizu ni Kansuru Yoron Chosa (Opinion Poll of 1995 in regard to AIDS)*.
- [14] The Cabinet Office of Japan (2000), *2000 Eizu ni Kansuru Yoron Chosa (Opinion Poll of 2000 in regard to AIDS)*.
- [15] The Japanese Association for Sex Education (2007), *Wakamono no sei hakusyo: da I nana kai seisyounen no seikoudou zenkoku cyousa houkoku (White book on young people: 6<sup>th</sup> survey on sexual behavior in young people in Japan)* , Sho Gaku Kan (in Japanese).
- [16] The Japanese Association for Sex Education (2013), “*Wakamono no sei hakusyo: da I nana kai seisyounen no seikoudou zenkoku cyousa houkoku (White book on young people: 7<sup>th</sup> survey on sexual behavior in young people in Japan)* , Sho Gaku Kan (in Japanese).