Table 1 Multiple regression analysis for the reported number of HIV and migrants from Southeast Asian countries**

Independent variables	Parameter coefficient	S.E.	t ·	р
Intercept constant	-20.452	12.560	-1.628	0.132
· Country A	0.011	0.005	-2.314	0.041
· Country B	0.007	0.003	2.147	0.055
· Country C	0.008	0.001	6.100	<0.001
· Country E	0.005	0.003	1.865	0.089

^{**}adjusted $R^2=0.858$ (F value=23.716, p <0.0004).

Dependent variable: the reported number of HIV among non-Japanese from Southeast Asian countries

Weighed variable: inverse (population)

Table 2 Multiple regression analysis for the reported and estimated number of HIV infections from Southeast Asian countries**

Independent variables	Parameter coefficient	S.E.	t	p
Intercept constant	-31.208	20.104	-1.552	0.147
· Country C	47.927	18.105	2.647	0.021
· Country D	-10.979	3.972	-2.764	0.017
· Country F	0.317	0.062	5.125	<0.001

^{**}adjusted $R^2=0.780$ (F value=18.757, p <0.0004).

Dependent variable: the reported number of HIV among non-Japanese from Southeast Asian countries

Weighed variable: inverse (population)

number of migrants formed a large part of the total (Fig. 3), was found only in the latter model.

4. Discussion

Even though there were certainly rough assumptions in our estimates, it was found that the trends of HIV infections among non-Japanese from Southeast Asian countries were roughly predictable, in its qualitative patterns, with the use of crude mathematical models. Both the number of foreign nationals from Southeast Asian countries and the estimated number of HIV-infected persons among them indicated that the changes in the trends of the reported number of HIV infections would mainly be attributable to the changes in the extent of migration. The estimated number of HIV-infected persons among foreign nationals staying in Japan reflects not only the extent of migration but also the trend of HIV/AIDS in their home countries. Therefore, it could be hypothesized that the trends in the number of foreign nationals from Southeast Asian countries with simultaneously ongoing HIV epidemics with their own controlled situations is one possible major factor that triggered the sharp increase followed by the sudden decline in the number of reported HIV infections in 1991-1992. Although the reported number of HIV infections among non-Japanese is not perfectly reliable due to several reasons as aforementioned, the figures are more likely to reflect the real situation than the reported number of AIDS cases would (because AIDS cases among foreign nationals might not be well-reported compared to Japanese nationals, and also because the cases are more likely to go back in their home countries for treatment) (Hashimoto et al. 2000).

The years 1991-1992 were the times when the economic crisis in Japan peaked (Itoh 1999). It has already been documented that when the economic bubble burst, foreign nationals working in Japan returned to their home countries. The increase in the volume of emigration as well as the decrease

in immigration after this might have reflected the economic situation. In the same way, around 1997, there was an economic crisis in the Southeast Asia region (International Monetary Fund 1997) and we can see a slight decline in the number of migrants as a possible result of this phenomenon. A clear depiction of migratory movements is extremely difficult since the system of registration by the Ministry of Justice cannot count perfectly, and we may have many more overstaying foreigners than is estimated (therefore underestimation may have occurred). Furthermore, flexible changes in the acceptance of entrance or the changeable reporting methodology might have certain impacts on the trends.

Without any doubts, the spatial spread of infectious diseases in this era is borderless. As a policy implication of our study, we should always be aware of global trends of HIV/AIDS as well as of international migration. Possible implication raised in this study would be the question of legal and ethical issues as seen in the epidemic of Severe Acute Respiratory Syndrome in 2003 (Gostin et al. 2003). Although we have highly sensitive and specific tools to detect HIV infection, and potential benefits from screening to the individual and public health are easily understood, the privacy, liberty and the duty to protect the public's health must be a topic to be discussed in case of infectious diseases which have ethical issues. For example, compulsory screening of immigrants for HIV is becoming a topic to be considered such as seen in the United Kingdom because the country have certain evidence that HIV infection acquired abroad has an impact on the epidemiology of HIV in the U.K. and that it is linked to immigrant-associated HIV (Coker 2004). However, one should be careful not to immediately assume that hence screening for migrants would be effective and thus should be implemented. Screening is also an heavily politicized issue and much controversy surrounds it. Much more multidisciplinary studies are required in order to assess the appropriateness and effectiveness of screening policy.

The limitations of our study must concern the study design. It should be noted that, in spite of the significant relationship between variables, the estimated number of HIV-infected persons could be far from correct since the study design assumes complete random sampling from the population in each home country. This element of the study is the biggest threat to the appropriateness of the study design as a whole, and therefore caution is needed when drawing conclusions about causation from ecological studies as they may not properly reflect an association at the individual level because of a confounding or effect modification (Greenland & Morgenstern 1989). Our estimation was therefore crude. One of the most important reasons for this from the technical viewpoint was the lack of detailed data on the statistics for foreign nationals, including regional (or provincial) variability of the prevalence of HIV infections. In addition, it must be noted the length of timeseries in this study was too short to apply multiple regression analysis (Nakazawa 2003). For example, on a simplest level, it can be observed that the adjusted R² yielded by the multiple regression for 7 series independently growing with certain variances is higher than 0.8 for most random seeds. Due to this limitation, it would be too early to draw a specific conclusion.

It should also be noted that acquisition of HIV after entering Japan is plausible (Kihara et al. 1995a), and that the impact the number of serological examinations and diagnoses on the trends of HIV infections have been observed among STD clinic attendants in a prefecture in Japan (Kihara et al. 1995b). Because these factors might largely affect our results, it is important to take them into consideration, and therefore large-scale individual-based approaches, which investigate these diagnostic and behavioral records, are required. Another possible area for further study might be the impact of trends in HIV/AIDS among Japanese nationals on the trends among migrants, and, in contrast, the impact of these migrants on HIV/AIDS in Japanese nationals. These kinds of studies have not been performed to date since we could not find detailed field investigations of

Japanese origin exploring the differences in risk behaviors according to individual characteristics among foreign nationals (Deren et al. 2003; Wasserheit & Aral 1996). Explanations with the use of mathematical models, which incorporate these factors in order to increase realisms, would also be achievable with the use of these field-based studies, and should be undertaken in further studies.

Acknowledgements

This work was mainly carried out while HN was staying in U.K. Thanks are due to Professor Roy M. Anderson and Dr Nicolas C. Grassly of UNAIDS Epidemiology Reference Group at the Department of Infectious Disease Epidemiology, Imperial College London for their suggestions and discussions. HN is also grateful to a Japanese Foundation for AIDS Prevention for supporting his study and stay in U.K. This study was also financially supported in part by a Grant-in-Aid from the Ministry of Health, Labor and Welfare of Japan (for Research on HIV/AIDS and International Migration, Headed by Dr Nobukatsu Ishikawa).

References

- 1) Box GEP, Cox DR, 1964, "An analysis of transformations", J R Stat Soc Ser B, 26-2, February, pp. 211-252.
- 2) Brookmeyer R, Gail MH, 1988, "A method for obtaining short-term projections and lower bounds on the size of the AIDS epidemic". *J Am Stat Assoc*, 83-402, June, pp. 301-308.
- 3) Coker R, 2004, "Compulsory screening of immigrants for tuberculosis and HIV". *Br Med J*, 328-7435, February, pp. 298-300.
- 4) Committee of AIDS Trends, Ministry of Health, Labor and Welfare, 2003, *Trends of AIDS incidence in Japan*, *Annual Report 2002*. Tokyo, Ministry of Health, Labor and Welfare of Japan.
- 5) Deren S, Kang SY, Colon HM, Andia JF, Robles RR, Oliver-Velez D, Finlinson A, 2003, "Migration and HIV risk behaviors: Puerto Rican drug injectors in New York city and Puerto Rico". *Am J Public Health*, 93-5, May, pp. 812-816.
- 6) Flahault A, Valleron AJ, 1990, "HIV and travel, no rational for restrictions". *Lancet*, 336-8724, November, pp. 1197-1198.
- 7) Gostin LO, Bayer R, Fairchild AL, 2003, "Ethical and legal challenges posed by severe acute respiratory syndrome: implications for the control of severe infectious disease threats". *J Am Med Assoc*, 290-24, December, pp. 3229-3237.
- 8) Greenland S, Morgenstern H, 1989, "Ecological bias, confounding, and effect modification". Int J Epidemiol, 18-1, March, pp. 269-274.
- 9) Hashimoto S, Fukutomi K, Ichikawa S, Morio S, Shinmura K, Soda K, 1995, "Study on trends of reported number of HIV-infected and AIDS cases based on the AIDS surveillance data until 1994". *Nippon Koshu Eisei Zasshi*, 42-12, December, pp. 1091-1098. (in Japanese)
- 10) Hashimoto S, Matsumoto T, Nagai M, Matsuyama Y, Nakamura Y, Umeda T, Kamakura M, Ichikawa S, Kimura S, Fukutomi K, Kihara M, 2000, "Delays and continuation of hospital visits among HIV-infected persons and AIDS cases in Japan". *J Epidemiol* 10-1, January, pp. 65-70.
- 11) Inaba H, 1994, "Estimation of the number of HIV infecteds in the early stage of epidemic and control strategy". *Jinko Mondai Kenkyu*, 49-4, January, pp. 23-33. (in Japanese with English abstract)

- 12) International Monetary Fund (IMF), 1997, Onset of Crisis and Its Evolution. in Chapter 3, World Economic Outlook: Interim Assessment? Crisis in Asia: Regional and Global Implications. Washington D.C., USA, International Monetary Fund. (available at: http://www.imf.org/external/pubs/ft/weo/weo1297/)
- 13) Itoh M, 1999, The Burst of Bubble and Political Economy of the 1990s Depression in Japan. in Chapter 4: Political economy. Winston-Salem, U.S.A. (available at: http://www.ecn.wfu.edu/cottrell/OPE/itoh/itoh.pdf)
- 14) Kihara M, Ichikawa S, Soda K, Kihara M, Hashimoto S, Shinmura K, 1995a, "Analysis of cause of recent rise in number of foreigners reported to HIV/AIDS surveillance in Japan". *Nippon Koshu Eisei Zasshi*, 42-8, August, pp. 569-578. (in Japanese with English abstract)
- 15) Kihara M, Kihara M, Shimizu M, Soda K, 1995b, "Prevalence of HIV and STD infection among foreign STD clinic attendants in Ibaragi prefecture, Japan". *Nippon Koshu Eisei Zasshi*, 42-8, August, pp. 579-585. (in Japanese)
- 16) Nakazawa M, 2003, *An introduction to statistical analysis with R*. Tokyo, Pearson Education Japan. (in Japanese)
- 17) R Development Core Team, 2004, R; A language and environment for statistical computing. Vienna, R Foundation for Statistical Computing. (URL: www.r-project.org)
- 18) Suhama F, Kakehashi M, 2000, "An analysis of HIV/AIDS in Southeast Asia: The prediction of spread and the warning for health control". *Hiroshima J Med Sci*, 48-5, October, pp. 331-342. (in Japanese with English Abstract)
- 19) The Immigration Bureau, Ministry of Justice, 1987-2002, Annual Statistical Report on the Number of Foreign Nationals Entering and Leaving Japan (25th to 41st). Tokyo, Ministry of Justice, Japan. (in Japanese)
- 20) The joint United Nations Programme on HIV/AIDS (UNAIDS), UNICEF, UNDP, UNFPA, UNDCP, UNESCO, WHO and World Bank, 2003, Report on the Global HIV/AIDS Epidemic, July 2002. Geneva, UNAIDS.
- 21) United Nations Population Division, 2003, World Population Prospects: The 2002 Revision. Population Database. Geneva, United Nations Population Division. (available at: http://esa.un.org/unpp/)
- 22) United States Bureau of the Census, 2002, *HIV/AIDS Surveillance Data Base*. Washington D. C., United States Bureau of the Census, USA. (available at: http://www.census.gov/ipc/www/hivaidsd.html)
- 23) Yoshiyama T, Nishiura H, 2003, Estimating the number of HIV infections among foreigners staying in Japan. Annual Report: Research on HIV/AIDS and International Migration. Tokyo, Ministry of Health, Labor and Welfare, Japan. pp. 100-105.
- 24) Wasserheit JN, Aral SO, 1996, "The dynamic topology of sexually transmitted disease epidemics: implications for prevention strategies". *J Infect Dis*, 174-S2, October: pp. S201-S213.
- 25) Wilson ME, 1995, "Travel and the emergence of infectious diseases". *Emerg Infect Dis* 1-2, April-June, pp. 39-46.

Key words: HIV, AIDS, Migration, Epidemiology, Model

HIV 感染症と人口移動

-1986-2001年における東南アジア出身者を対象とした生態学的研究-

西浦 博¹⁾²⁾⁵⁾・今津里沙¹⁾⁸⁾・吉山 崇¹⁾・野内英樹¹⁾ 沢崎 康⁴⁾・梯 正之⁵⁾・石川信克¹⁾

- 1) 財団法人結核予防会 結核研究所,2) インペリアルカレッジ感染症疫学教室,
 - 3) ロンドン大学衛生熱帯医学校公衆衛生・社会政策講座,
 - 4) 財団法人エイズ予防財団,5) 広島大学大学院保健学研究科

〔要 旨〕

わが国では1991-1992年にかけて外国人における HIV 感染者の報告数の急増と引き続く激減を認めたが、未だ在日外国人中の HIV 感染症の動向に関する詳細な説明が施されていない。われわれは東南アジア6カ国を出身とする者を対象として、わが国で実際に報告された HIV 感染の新規登録者数と推定感染者数との間における生態学的相関関係を検討した。まず、逆計算法を応用することによって、対象とする国の母国における時系列の HIV 感染症の粗有病率を推定した。その上で、出入国統計と粗有病率を利用して、1986-2001年の各年度に対象国出身で日本に滞在している外国人における大まかな HIV 感染者数を算出した。それらを基に実際のHIV 感染新規登録数との生態学的相関関係を検討するために単変量および多変量線形回帰分析を実施した。わが国での HIV 感染症報告数に対して、東南アジア対象国出身者のうちの時点滞在者数 (R²=0.2800)、およびそれらの間における推定された HIV 感染者数 (R²=0.6007)の両方に相関関係を認めた。このことから東南アジア諸国を出身とする外国人の出入国の動向、およびそれと同時に背景因子としての各国における HIV 感染症流行状況が、わが国での HIV感染症報告数に影響を与える主な要因であることが示唆された。また、以上の分析と共に重要と思われる他の要因を考察した。

キイワード: HIV, AIDS, 人口移動, 生態学的研究, モデル

Original Research Report

Characteristics of Voluntary Counseling and Testing (VCT) Acceptance among Pregnant Women Attending an Antenatal Care Clinic at Lerdsin Hospital, Bangkok, Thailand

Reiko Sato^{1,2,3}, Boonyong Keiwkarnka², Sirikul Isaranurug², Junya Pattara-Archachai⁴, Hideki Yanai¹ and Keiko Tsunekawa⁵ ¹TB/HIV Research project, the Research Institute of Tuberculosis, Japan: ²ASEAN Institute of Health Development (AIHD), Mahidol University, Thailand: ³Japan Oversee Cooperation Volunteers (JOCV), JICA Zambia: 4 Faculty of Medicine, Thammasat University, Thailand: ⁵Visiting Research Fellow, Centre for Health Economics, Chulalongkorn University, Bangkok

Objective: Mother to child transmission (MTCT) accounts for the majority of HIV infections among children. As it is necessary to know the HIV status of pregnant women to implement the preventive measures against MTCT, Voluntary Counseling and Testing (VCT) is promoted as the entry point to the prevention of MTCT (PMTCT). Since VCT coverage among pregnant women in Thailand is high compared with that in other countries, it could be a model of an effective VCT service.

Materials and Methods: A cross-sectional study was conducted to illustrate characteristics of VCT at an antenatal clinic in Lerdsin Hospital in Bangkok. The data was collected from 311 pregnant women in January 2003, using a self-administered questionnaire.

Results: Factor analysis covered 4 aspects of VCT: 1) Accessibility and quality of services, 2) Social circumstances, 3) Personal concern and 4) Decision making process. Fourteen components were then extracted: 1) Availability of services, 2) Low-cost accessibility, 3) High-cost accessibility, 4) Local support, 5) Support from the government, 6) People's negative reaction, 7) Maturity of epidemic, 8) Concern about health, 9) Fear of HIV testing result, 10) Recognition of HIV/AIDS as an unavoidable and problematic disease, 11) Expectation for being saved from problems, 12) Influence from other people, 13) Role of counseling and 14) Time required to make a decision.

Conclusion: Significant policy implications were: 1) Integrating VCT into antenatal service is recommended for PMTCT for its convenience and low cost, 2) Continuity of prevention, care and treatment services for sero-positive mothers and their babies is important to increase VCT acceptance, 3) As the reaction of people close is an important factor for accepting VCT, pre- and post-test counseling should concentrate on increasing women's confidence in making an informed choice about the test result and 4) Allowing VCT clients enough time to make a voluntary decision is important, together with the quality of counseling.

Key words: Voluntary Counseling and Testing (VCT), Mother-to-child transmission (MTCT), Factor analysis

The Journal of AIDS Research 7: 131-140, 2005

Introduction

Correspondence: Hideki YANAI, MD, Dr. PH, Research Institute of Tuberculosis, 3-1-24 Matsuyama, Kiyose, Tokyo 204-0021, Japan Fax: 81-424-92-8258

Received November 25, 2004; Accepted May 23, 2005

Mother-to-child transmission (MTCT) accounts for the largest number of HIV infections in children below the age of 15. According to the Joint United Nations Programme on AIDS (UNAIDS) in 2001, about 2.6

million pregnant women were infected with HIV worldwide and more than 500,000 transmitted the virus to their infants¹⁾. At the end of 2001, the estimated number of children living with HIV/AIDS was 2.7 million and 800,000 children were newly infected. In other words, more than 2,000 children daily become infected with HIV through MTCT¹⁾. The number of deaths of children due to HIV/AIDS was 580,000 in 2001²⁾.

There are effective interventions to prevent MTCT, but to take advantage of the interventions, pregnant women need to know their sero-status and they must therefore have access to Voluntary Counseling and Testing (VCT)²⁾. However, since the majority of countries where HIV is highly prevalent are also the poorest, VCT is often not widely available due to a lack of resources. For VCT services to be prioritized and for necessary resources to be provided for its development, demonstrating the effectiveness of VCT is essential.

In Thailand, the estimated number of adults and children with HIV/AIDS at the end of 2001 was 670,000 including 220,000 women between 15 and 49 years old and 21,000 children under 15 years old³⁾. HIV prevalence among pregnant women was 1.4% in 2002⁴⁾ and approximately 10,000 children are born at risk for MTCT each year⁵⁾. The estimated number of AIDS orphans was 290,000 in 2001³⁾.

A programme launched in 1997 including VCT for women attending antenatal care, a short course of antiretroviral drugs during pregnancy for HIV-positive women and subsidies for breast milk for one year, achieved a 50% reduction in number of HIV-infected children under four by 1999⁶. In early 2000, the Ministry of Public Health established a national policy on preventing MTCT⁷.

The latest study in 2002 showed that VCT acceptance rate among pregnant women was 97% in Thailand⁴⁾, which was significantly high compared with that in other countries⁸⁾. Although there are many factors affecting VCT acceptance, the high VCT acceptance rate in Thailand is seen as an effect of the government's strong commitment in dealing with the HIV/AIDS problem. It is said that Thailand is leading perinatal HIV prevention programs not only in Southeast Asia but also throughout the developing world⁹⁾.

Although previous studies pointed out numerous factors affecting VCT acceptance, no study has been conducted to describe those factors with orders of relevance, which gives useful information for policy-making for VCT implementation. Since the high VCT acceptance rate is regarded as a success of intervention, it is meaningful to explore and summarize reasons for such success to share information with other countries facing a similar problem. Hence, this study aimed to

illustrate the characteristics of VCT acceptance among pregnant women attending an antenatal care clinic at Lerdsin Hospital in Bangkok, Thailand.

Materials and Methods

A cross-sectional study was conducted with 311 pregnant women who had accepted VCT and attended at Lerdsin Hospital located in Bangkok City between 17th and 24th January 2003. Although they were purposively selected, only those who had agreed to participate in the study were included.

Data collection tool

Data was collected using a self-administered questionnaire. The questionnaire was initially prepared in English and then translated into Thai. A pretest of the questionnaire had been conducted with 30 pregnant women at Lerdsin Hospital and some wordings of the questionnaire had been corrected. The questionnaire covered the following main three issues:

1) Socio-demographic characteristics

Six items including age, residence, marital status, employment status, educational level and family income were collected.

2) Characteristics of VCT acceptance

Fifty-six variables related to VCT acceptance were derived from the literature review. The variables were grouped into 4 different aspects of VCT: 1) Accessibility and quality of services (15 variables), 2) Social circumstances (20 variables), 3) Personal concern (11 variables) and 4) Decision-making process (10 variables). The answers had 5 levels and scores for the levels were given as follows: "Strongly agree"=5 points, "Agree"=4 points, "Not sure"=3 points, "Disagree"=2 points and "Strongly disagree"=1 point. The score was calculated for each variable and was transformed into standardized scores for analysis. Factor analysis was done for each group.

3) Knowledge

Eighteen questions about the study participants' knowledge of MTCT, VCT and the National Policy were collected.

Factor analysis

Factor analysis is an analytical method which summarizes complex and diverse relationships among a set of observed variables by uncovering a new set of fewer numbers of hypothetical components which express what is common among the original variables. Less important variables are excluded in the process and correlated variables are grouped to constitute one component. Factor analysis helps illustrate a given phe-

nomenon with the fewer number of extracted components instead of dealing with many variables.

The result of factor analysis is given with factor loadings, common variances and total variances.

Factor loading indicates the relationship between a variable and a component. The variables that have high factor loadings, which represent they are highly correlated with one another, will be grouped together and constitute one component. The component will be named based on the constituent variables.

Common variance indicates the degree to which a variable can be explained only by the shared components. For example, if a common variance is 70% (0.7), it means 70% is explained by the shared components but another 30% is specific to the variable.

Total common variance shows the percentage that shared components account for all of the variance in all variables. When the total common variance is 70% (0.7), the shared components can explain the specified phenomenon by 70% of what all the remaining variables can.

A variable will be excluded either when 1) it has low factor loadings because it has less contribution to each component or 2) it has low common variance since the variable cannot be explained by the shared components.

Results

Socio-demographic characteristics (Table 1)

Age of the respondents ranged between 17 and 42 years old with the mean of 26.5 years. The majority of them were between 20 and 35 years old (87.5%). Approximately 94% of the respondents lived in Bangkok. The majority of them were married (94.9%). Nearly half of the respondents (44.1%) had primary school education, and a quarter (25.7%) had secondary school education. There were 2 pregnant women who had no education. Monthly family income ranged between 3,000 Baht and 50,000 Baht, with a median of 10,000 Baht. Since the income distribution was skewed, the median and the quartile values were used for grouping.

Factor analysis on characteristics on VCT acceptance Factor analysis I: Accessibility and quality of services (Table 2)

Four variables related to the health system which had low factor loadings or low common variances were excluded from the analysis. These were: variable 1 (v 1) Well-established health service system in the country will encourage pregnant women to accept VCT, v2) Safe delivery will encourage pregnant women to accept VCT, v7) Providing enough information about VCT

will encourage pregnant women to accept VCT and v9) Satisfaction with health services will encourage pregnant women to accept VCT. Although a well-functioning health system is essential as a basis for an effective VCT, the result implied that the study partici-

Table 1 Socio-demographic characteristics of 311 pregnant women who accepted VCT at an antenatal care clinic in Lerdsin Hospital, Bangkok, Thailand

		1 namana
Socio-demographic characteristics	Frequency (n=311)	Percentage
Age groups (years)		
< 20	22	7.1
20-35	272	87.5
>35	17	5.5
Mean \pm SD = 26.5 \pm 5.3 Min.	=17 M ax.=	-42
Residence		
In Bangkok	291	93.6
Outside of Bangkok	20	6.4
Marital status		
Single	9	2.9
Married	295	94.9
Separated/divorced	7	2.3
Employment status		
Employed	258	83.0
Unemployed	52	17.0
Educational level		
No education	2	0.6
Primary school	137	44.1
Secondary school	80	25.7
High school	59	19.0
College/University or above	33	10.6
Family income (Baht/month)		
< 7,000	74	23.8
7,000-9,999	59	19.0
10,000-14,999	95	30.6
≥ 15,000	83	26.7
Median = $10,000 \text{ Min.} = 3,000$	Max. = 50,00	00

Table 2 Factor analysis I (Accessibility and quality of services)

	I	Common		
Variables	Comp 1	Comp 2	Comp 3	variance
v 5. Continuity of care from hospital for HIV+	0.816	-0.122	-0.114	0.694
v 4. Availability of medical care for HIV+women	0.813	-0.150	-0.133	0.701
v 3. Availability of ARV for HIV+women	0.798	-0.090	-0.148	0.667
v 6. Availability of ARV for children of HIV+	0.580	-0.487	0.114	0.586
v 8. Availability of trained health personnel	0.561	-0.441	0.103	0.519
v11. VCT available at all health facilities	0.133	[-0.749]	-0.028	0.579
v14. VCT provided at low cost	0.099	-0.681	-0.422	0.652
v13. VCT provided for free of charge	0.153	-0.664	-0.420	0.641
v10. Offering VCT at ANC	0.439	-0.555	0.091	0.509
v15. VCT provided at high cost	0.057	-0.092	-0.814	0.675
v12. Far distance to VCT	0.072	-0.067	-0.810	0.666
% Total variance	26.1	20.6	16.0	62.6

pants did not recognize it as important when making the decision whether to accept VCT or not.

Three components were created by grouping the highly correlated variables. The first component consisted of five variables: v3) Availability of ARV for sero-positive pregnant women will encourage them to accept VCT, v4) Availability of medical care for sero-positive pregnant women will encourage them to accept VCT, v5) Continuity of care from the hospital for sero-positive pregnant women will encourage them to accept VCT, v6) Availability of ARV for children born to sero-positive mothers will encourage pregnant women to accept VCT and v8) Availability of trained health personnel who take care of VCT will encourage pregnant women to accept VCT. All the variables concern the availability of services, hence the first component was named "Availability of services".

The second component consisted of four variables: v 10) Providing VCT at an antenatal care clinic will encourage pregnant women to accept VCT, v11) If VCT is available at all health facilities, it will encourage pregnant women to accept VCT, v13) VCT provided free of charge will encourage pregnant women to accept VCT and v14) Low cost will encourage pregnant women to accept VCT. If VCT is provided at all facilities, pregnant women will be able to select the most convenient place for them which will result in reducing the transportation cost. VCT at an antenatal care clinic is also convenient for pregnant women as they do not need extra transportation for getting the VCT service. As all the variables will lead to low cost, the second component was named "Low cost accessibility".

The third component consisted of two variables: v 12) If VCT is provided at a distant place, it will discourage pregnant women and v15) High cost will discourage pregnant women from accepting VCT. As these two variables will lead to high cost, the component was named "High cost accessibility".

Factor analysis II: Social Circumstances (Table 3)

In the process of analysis, four variables were excluded: v1) Advice from husband/partner to access VCT will encourage pregnant women to accept VCT, v 6) Being able to receive emotional support when the result is positive will encourage pregnant women to accept VCT, v14) the Government's responsibility of tackling HIV/AIDS problem will encourage pregnant women to accept VCT and v16) Providing VCT to all pregnant women by the government will encourage them to accept VCT.

Four components were created. The first component consisted of six variables: v2) Husband or partner's accompaniment will encourage pregnant women to accept VCT, 3) Support from family members will encourage pregnant women to accept VCT, v4) Support from community members will encourage pregnant women to accept VCT, v5) Having someone to talk to about VCT will encourage pregnant women to accept VCT, v7) Being able to receive financial support when the result is positive will encourage pregnant women to accept VCT and v8) Recognition of HIV/AIDS problem will encourage pregnant women to accept VCT. These variables are related to support from people who are close to pregnant women. Rec-

Table 3 Factor analysis II (Social circumstances)

V-sichler	Factor loadings				Common
Variables	Comp 1	Comp 2	Comp 3	Comp 4	variance
v 5. Talk with someone about HIV test	0.747	0.169	-0.060	0.022	0.591
v 4. Support from community people	0.712	0.181	-0.017	0.099	0.550
v 2. Husband/partner's accompanying	0.677	0.146	0.019	0.039	0.482
v 7. Financial support when HIV+	0.670	0.173	0.069	0.163	0.511
v 3. Support from family members	0.648	0.219	0.042	0.179	0.502
v 8. Recognition of HIV/AIDS	0.541	0.299	0.067	0.335	0.498
v19. ARV to babies of HIV+by Gov.	0.179	0.815	0.071	0.087	0.710
v17. ARV to HIV+by Gov.	0.206	0.768	-0.042	-0.081	0.640
v20. Medical care to HIV+babies by Gov.	0.258	0.767	0.018	0.164	0.683
v18. Medical care to HIV+by Gov.	0.169	0.759	0.076	0.131	0.628
v15. Cooperation bet. Gov. and NGOs	0.385	0.520	0.037	0.143	0.440
v11. Fear of discrimination by family	0.017	-0.004	0.926	-0.029	0.859
v12. Fear of discrimination by neighbors	0.017	0.046	0.925	0.003	0.857
v13. Stigmatization and discrimination	0.031	0.074	0.868	-0.114	0.773
v 9. Seriousness of HIV/AIDS problem	0.157	0.036	-0.080	0.857	0.767
v10. High HIV/AIDS prevalence	0.224	0.192	-0.072	0.774	0.692
% Total variance	19.2	18.7	15.7	10.1	63.6

ognition of HIV/AIDS problem will let people give support to those who are suffering from the disease. The first component was hence named "Local support".

The second component consisted of five variables: v 15) Cooperation between the government and NGOs will encourage pregnant women to accept VCT, v17) Providing ARVs for sero-positive pregnant women by the government will encourage them to accept VCT, v 18) Providing medical care for sero-positive pregnant women by the government will encourage them to accept VCT, v19) Providing ARVs for babies born to sero-positive mothers by the government will encourage pregnant women to accept VCT and v20) Providing medical care for babies born to sero-positive mothers by the government will encourage pregnant women to accept VCT. The results implied that the government's role in providing services such as ARVs and medical care for both sero-positive mothers and their babies had an influence on VCT acceptance. The second component was named "Support from the government".

The third component consisted of three variables: v 11) Fear of discrimination by family members will discourage pregnant women from accepting VCT, v12) Fear of discrimination by neighborhoods will discourage pregnant women from accepting VCT and v13) Stigmatization and discrimination towards HIV/AIDS

among people in the country will discourage pregnant women from accepting VCT. These variables concern the negative reaction to HIV positive patients and the component was named "People's negative reaction".

The forth component consisted of two variables: v9) Recognition of the seriousness of the HIV/AIDS problem will encourage pregnant women to accept VCT and v10) High HIV/AIDS prevalence in the country will encourage pregnant women to accept VCT. This component was named "Maturity of epidemic".

Factor analysis III: Personal Concern (Table 4)

One variable concerning mandatory HIV testing (v 11) was excluded and four components were grouped from the remaining 10 variables.

The first component consisted of three variables: v1) Concern about a pregnant woman's own health will encourage her to accept VCT, v2) Concern about a pregnant woman's baby's health will encourage her to accept VCT and v3) Concern about sero-status will encourage her to accept VCT. The component was named "Concern about health".

The second component consisted of two variables: v 5) People with HIV/AIDS will be stigmatized and v9) Fear of knowing the results of HIV testing will discourage pregnant women from accepting VCT. These two

Table 4 Factor analysis III (Personal concern)

	Factor loadings				Common
Variables	Comp 1	Comp 2	Comp 3	Comp 4	variance
v 2. Concern about baby's health	0.866	-0.005	-0.073	-0.053	0.758
v 1. Concern about own health	0.856	-0.008	-0.040	-0.028	0.736
v 3. Concern about own sero-status	0.755	-0.019	-0.043	-0.229	0.655
v 5. PLWHA will receive stigma	-0.021	0.809	-0.111	0.112	0.680
v 9. Fear of the result of HIV test	-0.038	0.747	-0.021	-0.328	0.668
v 4. Everyone is at risk of infection	0.159	-0.122	-0.817	-0.235	0.763
v 6. AIDS is mortal disease	-0.075	0.459	-0.601	0.118	0.591
v 8. MTCT can cause trouble in family	0.073	0.480	-0.571	-0.038	0.563
v 7. MTCT can be prevented	0.089	-0.068	-0.047	-0.853	0.742
v10. Secrecy of the results of HIV test	0.244	0.355	-0.150	-0.577	0.541
% Total variance	21.9	18.0	14.0	13.1	67.0

variables concern pregnant women's fear of the test result and its negative consequences. Hence, the second component was named "Fear of HIV testing result".

The third component consisted of three variables: v 4) Everyone runs the risk of being infected with HIV, v 6) AIDS is a mortal disease and v8) MTCT will cause trouble in the family. These variables mention that HIV/AIDS is a deadly disease with a potential for everybody to contract it. The third component was named "Recognition of HIV/AIDS as an unavoidable and problematic disease".

The forth component consisted of two variables: v7) MTCT can be prevented and v10) Secrecy of the results of HIV testing will encourage pregnant women to accept VCT. The second variable is related to the perception that confidentiality will prevent further problems such as stigmatization and discrimination. The component was named "Expectation of being saved from the problems".

Factor analysis IV: Decision Making Process (Table 5)

One variable concerning opinions from health personnel (v7) was excluded and three components were grouped.

The first component consisted of four variables: v4) Opinion of the husband/partner of a pregnant woman will influence her decision on VCT, v5) Opinion of the family of a pregnant woman will influence her decision on VCT, v6) Opinion of the friends of a pregnant woman will influence her decision on VCT and v8) Other pregnant women's decision to accept VCT will influence a pregnant woman's decision on VCT. The results implied that a pregnant woman's decision on

VCT acceptance was influenced by the opinions of her friends and by other pregnant women's decisions. Opinion from husbands or partners and family members came as the next important factor. On the other hand, 'opinions from health personnel' was excluded by the analysis. The first component was named "Influence from other people".

The second component consisted of three variables: v 3) Belief in self-decision-making will influence pregnant women to accept VCT, v9) A pregnant woman should decide whether she accepts VCT before counseling and v10) A pregnant woman should decide whether she accepts VCT after receiving proper counseling. V3 and v9 are both about decisions made by pregnant women themselves. V9 and v10 are about the timing of decision making in relation to counseling. The result implied that counseling influences pregnant women's decision on accepting HIV testing. This component was named "Role of counseling".

The third component consisted of two variables: v1) Adequate time to consider will influence pregnant women to make a voluntary decision for VCT acceptance and v2) Enough time to consider VCT will influence pregnant women's decision making. Both variables were about necessary time to consider VCT. The third component was named "Time required to make a decision".

The characteristics of VCT acceptance were illustrated with the 14 components categorized by four aspects of the service uptake as follows:

- I) Accessibility and quality of services
 - 1) Availability of services
 - 2) Low-cost accessibility

Table 5 Factor analysis IV (Decision making process)

Variables]	Common		
variables	Comp 1	Comp 2	Comp 3	variance
v 6. Opinion of friends	0.851	-0.022	0.011	0.726
v 8. Other pregnant women's decision	0.687	-0.043	0.296	0.561
v 4. Opinion of husband/partner	0.641	-0.380	0.202	0.597
v 5. Opinion of family members	0.601	-0.243	0.350	0.543
v10. Decide after receiving proper counseling	0.079	-0.822	0.075	0.687
v 9. Pregnant women should decide by herself	0.076	-0.708	0.187	0.542
v 3. Belief in self-decision-making	0.434	-0.531	0.144	0.491
v 2. Enough time to consider about HIV testing	0.226	-0.095	0.862	0.804
v 1. Adequate time to consider about HIV testing	0.185	-0.254	0.814	0.762
% Total variance	25.1	19.3	19.1	63.5

- 3) High-cost accessibility
- II) Social circumstances
 - 4) Local support
 - 5) Support from the government
 - 6) People's negative reaction
 - 7) Maturity of epidemic
- III) Personal concern
 - 8) Concern about health
 - 9) Fear of HIV testing result
 - 10) Recognition of HIV/AIDS as an unavoidable and problematic disease
 - 11) Expectation of being saved from problems
- IV) Decision making process
 - 12) Influence from other people
 - 13) Role of counseling
 - 14) Time required to make a decision

Knowledge (Table 6)

Women were relatively knowledgeable about the VCT service provided by the government. However, they were less informed about the availability of treatment and care for HIV-positive mothers and infants. Only 5.8% of the respondents knew that the sero-positive mothers could not continue to receive ARV free of charge after the delivery. A few (9.7%) knew the universal health insurance policy did not include the provision of ARVs at the time of the study. More than 80% of respondents knew about neither the potential HIV infection through breastfeeding, nor the service of providing infant formula by the government. Nearly 70% of the respondents were aware that the infection could occur during pregnancy.

Discussion

Factor analysis summarized the 56 variables by extracting shared components holding important variables for VCT acceptance. Instead of dealing with many variables, the smaller number of the extracted components are used to understand necessary factors for an effective implementation of VCT.

This study is limited in its method since the extracted components relied on the researchers' view. In addition, the 56 variables were purposely derived from the literature review, so the study might not cover all aspects of VCT. Furthermore, the variables were grouped into four aspects of VCT based on the researchers' hypothesis. If the grouping was done with another assumption, the result might have been different. The study participants were those who accepted VCT. Therefore, the result lacks representation of those who did not accept VCT.

The remaining variables which constitute the 14 components imply important factors for VCT implementation. Four important implications were identified from the remaining variables as follows.

First, integrating VCT into antenatal service is recommended for PMTCT because of its convenience and low cost.

Cost is thought to be one of the most important factors which influences acceptance of VCT. On one hand, high cost of VCT discourages poor people from accessing it¹⁰⁾. On the other, client fees are considered a way to attach a value to the services and bearing the cost by themselves may motivate people to go back to

Table 6 Knowledge

		Correct answers	
Statements	Frequency (n=311)	Percentage	
Knowledge about MTCT			
1. Mother will infect her baby with HIV during pregnancy	215	69.1	
2. Baby will be infected with HIV through breastfeeding	21	6.8	
3. All babies of HIV+ mothers will be infected with HIV	122	38.9	
4. There are drugs which reduce the chance of MTCT	109	35.1	
5. Avoidance of breastfeeding can reduce MTCT	115	37.0	
Knowledge about VCT			
6. HIV testing looks for the presence of HIV in the blood	171	55.0	
7. It takes 3 months after being infected to detect HIV	82	26.4	
8. Early detecting of HIV infection in pregnancy allows appropriate treatment in order to reduce MTCT	222	71.4	
9. Early detecting of HIV infection in pregnancy enables the woman to take decisions on	200	64.3	
continuation or termination of the pregnancy and on future fertility			
10. HIV testing requires a small amount of blood	181	58.2	
Knowledge about the national program			
11. In Thailand, VCT are available for all pregnant women	194	62.4	
12. ARV will be provided to all HIV+ pregnant women	83	26.7	
13. ARV will be provided to all infants of HIV+ mothers	77	24.8	
14. Infant formula will be provided to infants of HIV+ mothers for 12 months	49	15.8	
15. Infants of HIV+ mothers will have HIV testing	255	82.0	
16. Thai government will provide proper medical care and treatment for mothers and children	174	56.0	
17. All HIV+ mothers will be able to continue receiving ARV free of charge after delivery	18	5.8	
18. Treatment of HIV/AIDS is included into 30 Baht scheme (Universal coverage policy)	30	9.7	

the VCT centre for their results. It can work to discourage inappropriate utilization¹¹⁾. The study indicates that the high levels of acceptance of VCT at an antenatal care clinic setting can be explained by the low total cost. Location of VCT centres is also an important issue to consider when VCT is set up. If the VCT facility is far from clients' houses, people need more money to reach VCT services and as the transport system is often poor in developing countries, it may reduce the up-take of VCT.

One of the biggest barriers to accepting VCT is a fear of disclosure to their partners, other family members and neighbors. A study suggests that the fear forces people select VCT facilities far from their home ¹²⁾. VCT services offered at antenatal care clinics is convenient for pregnant women since pregnant women can have tests without making others suspicious. In addition, the total cost for the service will be low because pregnant women do not have to pay extra money for traveling to a special center for VCT.

Although making VCT services available at every health facility might not be feasible in some developing countries, integrating it into the routine antenatal care service is viable and is recommended as part of PMTCT.

Secondly, ensuring the continuity of prevention, care and treatment services for sero-positive mothers and their babies is important to increase VCT acceptance.

In developing countries, lack of ARVs and medical and social support services for people with HIV is reported as an obstacle to increasing the uptake of VCT¹¹⁻¹³⁾. Although VCT is recommended as an opportunity to encourage behaviour change to prevent further infections and positive living even when there are no prevention and care strategies¹⁴⁾, it was implied in this study that provision of treatment and care services is important to motivate people to access the VCT service. It is said that VCT services without any support will enhance the suffering of sero-positive people¹⁴⁾.

Although general health care services are less

prioritized in this study, a well-functioning health care system is necessary since it is the basis of an effective VCT implementation. The health care system in Thailand has been established and has been prepared for VCT implementation. Availability of general health care services should be considered when VCT is implemented in other developing countries.

It is recommended that response to MTCT should be extended to include prevention, care and treatment services to the sero-positive mothers and their children for a longer term.

Thirdly, the reaction of people close to the pregnant women would be an important factor for accepting VCT. The study indicated that the perceived reactions from people close to pregnant women influence VCT uptakes. Access to VCT and other services offered to sero-positive people makes it virtually impossible for them to keep their status secret from their families and people in the community. Fear of stigmatization by their families, friends, and communities discourages people from accepting VCT^{13,15,16)}. Counseling, if done in the right way, can help women to feel more confident to disclose their status or can even help them learn that there are options of not disclosing. Therefore, pre- and post-test counseling should concentrate on increasing women's confidence in making informed choices about the test result including disclosing it to their partners and families. In addition, the study indicated that the decision on VCT acceptance should be made voluntarily. There is no justification whatsoever to force women to accept VCT against their will.

Finally, allowing enough time to make a voluntary decision whether or not to accept VCT is also important, together with the quality of counseling. As the counseling is an essential element for a pregnant woman to make a voluntary decision on VCT, its quality must be maintained high. Unless women receive adequate and appropriate counseling to understand the benefits of testing, it may not be translated into beneficial outcomes for the mother and child¹²⁾. Counseling is also critical for supporting the effectiveness of medical interventions.

Acknowledgement: The authors would like to thank the directors and all nursing staff at Lerdsin Hospital for permitting us to conduct this study and for their collaboration. Our special thanks go especially to Ms. Sangsuree Tassanapoonchai for her support and valuable counsel during the data collection. We are deeply indebted to Ms. Sidaa Ratnawan, Ms. Pornnipa Kumsuk and Ms. Saengjun Nongna for their assistance in data collection. This study was conducted as the first author's dissertation at Mahidol University. Sincere gratitude and deep appreciation go to the members of the

dissertation advisory committee, for their continued support and understanding.

References

- Mitka M: MTCT-Plus program has two goals: End maternal HIV transmission + treat mothers. JAMA 288 (2): 153-154, 2002.
- 2) Joint United Nations Programme on HIV/AIDS. Prevention of HIV transmission from mother to child Strategic options [Online]. Geneva: The Organization; 1999 May. Available from: http://www.unaids.org/publications/documents/mtct/strat0599.html [Accessed 2002 Oct 20].
- 3) Joint United Nations Programme on HIV/AIDS. Epidemiological Facts Sheets on HIV/AIDS and sexually transmitted infections [Online]. Geneva: The Organization; 2002. Available from: http://www.unaids.org/hivaidsinfo/statistics/fact_sheets/pdfs/Thailand_en.pdf [Accessed 2002 Aug 20].
- 4) Sugawara Y (iwana@k2.dion.ne.jp): The program for prevention of mother-to-child HIV transmission: analysis of options in Thailand. Email to Sato R (reikosat@ hotmail.com). 2002 Nov 13.
- 5) The Thai Working Group on HIV/AIDS projection: Projections for HIV/AIDS in Thailand: 2000-2020: Bangkok: Karnsana; 2001.
- 6) Health a key to prosperity. Mekong countries join hands in preventing HIV transmission to children [Online]. Available from: http://www.who.int/inf-new/mate2.htm [Accessed 2002 Oct 10].
- Amornwichet P, Teeraratkul A, Simonds RJ, Naiwatanakul T, Chantharojwong N, Culnane M, Tappero JW, Kanshana S: Preventing Mother-to-child HIV transmission The first Year of Thailand's National program. JAMA 288 (2): 245-248, 2002.
- 8) Cartoux M: Accessibility of voluntary counseling and testing (VCT) and interventions to reduce mother-to-child transmission of HIV. 12th World AIDS Conference. 1998 Jun 28-Jul 3; Geneva; 1998. Abstract no. 23310.
- 9) Arthur JA: Thailand visit report [Online]. Global strategies for HIV Prevention; 2002. Available from: http://www.globalstrategies.org/resources/country_profile_thailand.html [Accessed 2002 Oct 28].
- 10) Stanford University: Increasing Universal Offering VCT and Test Acceptance during Prenatal Care in California. Slides [Online]. 2002. Available from: http://www.cdc.gov/hiv/projects/perinatal/materials/ws-vct-antenatal_slide2.pdf [Accessed 2002 Nov 6].
- 11) Alwano-Edyegu MG, Wheeler M: Knowledge is power: Voluntary HIV counseling and testing in Uganda, UNAIDS case study. Geneva: UNAIDS; 1999. UNAIDS/99.8E.
- 12) Miller D, Olsson J: The impact of voluntary counseling and testing: A global review of the benefits and chal-

- lenges. Geneva: UNAIDS; 2001. UNAIDS/01.32E.
- 13) Bwalya V: Counseling, testing and psychosocial support, Lusaka[Online]: Health and Development Networkes; 1999. Available from: http://www.hdnet.org/Lusaka 1999 reports/416.htm [Accessed 2002 Oct 30].
- 14) Health a key to prosperity, Success stories in developing countries. Thailand achieves sustained reduction in HIV infection rate [Online]. Available from: http://www.who.int/inf-new/aids1.htm [Accessed 2002 Oct 15].
- 15) Michaels Opinion Research for the Henry J. Kaiser
- Family Foundation. Hearing their voices, a qualitative research study on HIV testing and higher-risk teens. California [Online]. Available from: http://www.kff. org / content / 1999 / 1492 / HearingVoices 2. PDF [Accessed 2002 Nov 3].
- 16) d'Adesky A: Préventing Mother-to-Child Transmission in Uganda [Online]. American Foundation for AIDS Research; 2001. Available from: http://www.aegis. com/pubs/amfar/2001/AM011002.html [Accessed 2002 Nov 13].

総 説

ディスコース・アナリシスのエイズ関連研究への応用

A Discursive Approach to AIDS-Related Researches

今津里沙1,2),野内英樹1)

Lisa IMADZU^{1,2)} and Hideki YANAI¹⁾

1)(財)結核予防会結核研究所 2)ロンドン大学熱帯医学公衆衛生院

¹⁾ The Research Institute of Tuberculosis, Japan Anti-Tuberculosis Association
²⁾ The London School of Hygiene and Tropical Medicine

キーワード:質的研究,政策分析,ディスコース・アナリシス,公衆衛生,テキストの分析

日本エイズ学会誌 6:97-101, 2004

はじめに

エイズはいまや単なる医学的、公衆衛生的な問題だけで はなく、政治、経済、文化など、人間社会のあらゆる側面 に影響を及ぼしている。また、どのような社会も多様であ り,エイズに関する知識や理解も一様ではない。このよう な、多面的なエイズ問題に取り組むには疫学調査や社会調 査から得られる統計などの量的データだけでは不充分であ り、質的データを系統的な分析方法を用いて情報を引き出 す必要がある。今回は、質的データの一つである文面 (テ キスト・データ)の質的分析方法として、ディスコース・ アナリシス 注1 を紹介する。日本の公衆衛生学分野において テキスト・データの分析方法への関心は高まってきてはい るものの、その方法論や結果の解釈に関する理解は十分と はいえないのが現状である。本論文ではディスコース・ア ナリシスの過程を簡潔に説明する他, いかにディスコー ス・アナリシスがテキスト・データの質的分析方法として 優れているか、そしてどのようにエイズ関連研究に貢献で きるかを検討する。

ディスコース・アナリシスと公衆衛生学

ディスコースならびにディスコース・アナリシスの定義は幅広く、実際には会話などのマイクロレベルで言語学研究に用いられる分析方法から、ミッシェル・フーコーが精神病院などの機関における権力関係の歴史、哲学的研究に用いた方法までが一括して"ディスコース・アナリシス"と呼ばれている。本研究で紹介するディスコース・アナリ

著者連絡先: 今津里沙, 野内英樹 (〒204-8533 東京都清瀬市松山 3-1-24 (財)結核予防会結核研究所研究部) Fax: 0424-92-8258, E-mail: hyanai@jata.or.jp

2004年4月13日受付

シスはイギリス学派のカルチャー研究の影響を強く受けており、それにおけるディスコースとは、一種の文化システムのことを指す¹⁾。ディスコース・アナリシスは個人や機関はスピーチやテキストなどを通してコミュニケートしており、そしてそのコミュニケーションは社会構造および文化制度を反映しているという認識論的な推定に基づいている。従って特定のディスコースを分析することによって、それが位置付けられている社会に対する理解を得ることができると考えられている。すなわちディスコース・アナリシスは「なぜこのような言葉が、このような状況のもとで述べられたのか」と問うことによって、その言葉が個人のスピーチとして発せられた社会的要因に注目し、その社会の権力関係や社会規範の研究を可能とする分析方法なのである。

公衆衛生学分野にディスコース・アナリシスが紹介され たのは90年代前半と比較的最近のことだが、西ヨーロッ パ諸国、オーストラリアならびに発展途上国では、特に保 健教育や健康増進に関する政策分野の研究者の間で注目を 浴びている²-4)。コンテント・アナリシスなどの量的分析方 法は言葉を量的データとして扱うため、その表面的な意味 しか捉えられない。これでは言葉や文章の背後にある社会 的及び文化的背景を全く無視することに繋がってしまう。 これは政策分析においては重要な欠点であり、政策に対す る理解や提言に大きな支障を来たしかねない。しかしディ スコース・アナリシスは言葉の表面的な意味を捉えて利用 するのではなく, 言葉の背景にある政治および社会文化的 な構造を特定し、分析を行うことによって、研究対象とな る人々や社会に関するより豊富な情報を得ることができ る。これによって、保健教育や健康増進に関する政策の背 景にある様々な社会的要因の分析を可能にする。質的研究 者はディスコース・アナリシスのこのような特色に注目

し、後述するような研究事例に至るのだが、その前に簡潔 にディスコース・アナリシスの手順について述べておきた い。

ディスコース・アナリシスの手順

まず前提として述べておくことは、ディスコース・アナ リシスを含む質的分析方法には量的分析方法にあるよう な、ステップ・バイ・ステップの「手順」は存在しないと いうことである。従って、これから述べる「ディスコー ス・アナリシスの手順」や、末尾にある参考文献にあるよ うな参考書や論文を読まれても,必ずしも正確に、質の高 いディスコース・アナリシスが実施できるという保証はな いのである。質的研究の質は量的研究のそれとは異なった 基準で測られることを理解しておく必要がある。もちろん 分析方法の基本原則は存在するが、それは概念的なもので あり、質的研究を行う際には質的研究の根本的な認識論お よび方法論的な基盤を理解しておく必要があるのである。 その理解も質的研究を実施するにあたっての最低限の条件 であり、質的研究の質は研究者の経験とセンスに大きく左 右されてくるのである。本総説は質的研究の認識論につい て記述することが目的ではないが、興味のある方は次の文 献が参考になろう。

- 1. Hammersley M: Social Research, Philosophy, Politics and Practice. Sage, 1993
- Silverman D: Interpreting Qualitative Data. Sage, 1993
- Thorogood N: Questioning science; How knowledge is socially constructed. British Dental Journal 183 (5): 152-155, 1997

さて、ディスコース・アナリシスの手順の第一段階とし ては、質的データ収集法で取得したテキスト・データを 2, 3回にわたり目を通すことによってデータに習熟(familiarize with data) することが挙げられる。次に、データから 浮上するテーマを特定し、テキストの質的分析用プログラ ム・ソフトウェア (例: NUD*IST, N Vivo)5)やマイクロ ソフトオフィスのワード 2000 の組織図作成機能などを利 用して、図表に表しながら記述していく。それを基に質的 研究,特にディスコース・アナリシスにおいては不可欠で ある結果を分析、解釈してデータに戻り、新たな解釈を得 られるか検討するというプロセスを繰り返す。そして、新 たなテーマが浮上しない飽和点(saturation point)を満た した段階で分析を終了するというものである。読者のなか には、これはグラウンデッド・セオリー法とあまり変わら ないではないか、と指摘される方もいるかもしれない。グ ラウンデッド・セオリーは日本でも特に看護分野において 多く活用されてきたが6)、もとはマルクスの階級社会論、

ウェーバーの合理化理論(組織は合理化していって官僚制 にたどりつく)、パーソンズの社会システム論(構造機能理 論)など、社会を全体として把握しようというマクロ理論 に対するアンチテーゼとして生み出された^{7,8)}。よって,特 定の社会現象を対象に、社会調査を通じて体系的に獲得さ れたデータからミクロ理論を産出することを目的としてい る。従ってグラウンデッド・セオリー法はディスコース・ アナリシスと類似していると思われがちだが、収集した データをカテゴリーにまとめるという点で, 根本的な認識 論的立場は論理的実証主義に基づいており,質的分析方法 のそれとは相反している⁹⁾。さらにグラウンデッド・セオ リーは象徴的相互作用論における人間行動の見方を応用し た研究法であるため、どうしても分析対象がミクロにな り、還元主義に寄りがちになってしまう。このような理由 から、テキストの背景にある様々なマクロ的な社会的事 実10,11), 例えば社会現象やイデオロギー並びに権力関係な どは捉えにくい、という弱点がある。今回紹介するディス コース・アナリシスはこれらの弱点を補うことができるた め、エイズの社会的問題に関する文化研究や政策分析など に非常に適した研究方法だといえる。

ディスコース・アナリシスを活用した研究例

本総説では以下にディスコース・アナリシスを活用した3つのエイズ関連研究を紹介し、それらが果たした貢献について検討してみたい。

初めに紹介するのは、オーストラリアにてルプトンが行ったコンドーム (という言葉) が位置付けられているディスコースについての研究である 12)。

オーストラリアでは 1980 年代後半から 1990 年代前半に かけて、エイズ啓蒙や教育活動が活発に行われ、コンドー ムプロモーションもその活動に組み込まれていた。特に 1987年はコンドームの宣伝禁止令も取り除かれ、コンドー ム生産会社などが避妊ではなく、特にエイズ予防を目的と した利用を掲げ宣伝し、報道機関や厚生省などもメディア を通じてコンドームの使用を最も推進していた年であっ た。ルプトンはその1年間の間に,新聞や雑誌などに掲載 されたコンドームに関する全ての記事を収集し、ディス コース・アナリシスを実施した。ルプトンはまず,テキス ト・データに習熟するために幾度かにわたって全記事を読 み, 記事の題材と内容を把握し, 整理した。次に, 彼女の 研究課題であるコンドームの描写を特定すべく、コンドー ムの比喩的表現や二項対立的な表現をテキスト・データの 中から抽出して、分類した。ここで重要なのは、彼女がテ キストを一つ一つの言葉として区切るのではなく, コミュ ニケーションのスタイルとして扱ったことである。そうす ることによって、それらの分類から背景となるオーストラ

リア社会独特の価値観や権力関係などを見出すことが可能 になるのである。

ルプトンは分析の結果、オーストラリア社会においてコ ンドームは多数のディスコースにて位置付けられており, それらは必ずしも全てが性行為におけるコンドームの利用 を容認するディスコースではないと結論を出した。コン ドームの利用を完全に容認しているディスコースの例とし ては、女性の権利やエンパワーメントに関するものやコン ドームを救命具や医療品などと同様に扱う科学的なものが 認識されたが、一方でテキスト・データからはカトリック 教会や右翼政党などが維持する「ファミリー・バリュー」 や「プロ・ライフ」に関するコンドーム利用を容認しない ディスコースも認知された。結果的にコンドームのプロ モーションの内容は統一性のない、パラドクシカルなもの となってしまっており、かえって消費者を混乱させてい た、とルプトンは結論づけている。そしてコンドームの利 用率が宣伝のわりには伸びなかったことに対し、コンドー ムの利用を社会に浸透させるためには「情熱的であり、セ ンシュアルであり、かつエロティックな性のディスコー ス」を開発することにより、「コンドームを利用する性行 為」のポジティブな価値観を推進することを提案してい る。

2つ目に紹介するのは南アフリカ社会におけるエイズを 含める性感染症の社会的な描写について、シェーファーら が行った研究である13)。彼女らは、性感染症に関する健康 増進を行う際に、基本情報として健康増進の対象となる人 口グループの性感染症に関する知識を測る必要があるが, 往来の質問表やアンケートを用いる調査には限度があると 主張している。なぜなら、性や性感染症に関する文化は社 会によってそれぞれ異なるからであり、研究者は性感染症 に対する自分の理解する医学的、科学的な見解が、必ずし も研究対象の人口グループに受け入れられると憶断しては ならないからである。従ってシェーファーらは南アフリカ の地元の住民における、エイズを含む性感染症にまつわる 文化を理解すべく、多様な住民グループを対象にフォーカ ス・グループ・ディスカッションを行い、それらを書き起 こしたものにディスコース・アナリシスを実施した。上記 に述べたルプトンの研究と異なり、シェーファーらのデー タは会話および交流である。彼女らはまずそれらを転写規 定に沿って書き起こし,次に性感染症の原因と予防処置, それと治療という2つのテーマに関するディスカッション に集中して分析を行った。具体的には、参加者の話し方や 言葉の選び方、スピーチの作り方、他の参加者との交わり 方などに注目し, 性感染症がどのように描写されているか を探ったのである。

この分析の結果, シェーファーらは研究対象となった人

ログループにおいては、エイズを含む性感染症は、我々が 「正しい」知識と認識している近代科学的な論理にした がって理解されているのではなく, 南アフリカ社会独特の 価値観や文化を反映した知識にそって理解されていると結 論を出した。例えば、性感染症の原因に関しては「女性は 本来汚らわしい生き物である」という考えに基づき、性感 染症も常に女性から男性に感染する、あるいは女性の無責 任さや「汚さ」ゆえに男性が感染すると理解されているこ とがわかった。また、この社会特有のセクシュアリティー に関する理解に基づき, 男性が性感染症にかかるというこ とは一種の「男らしさ」の象徴と見なされるが、女性が性 感染症にかかると社会から偏見を持たれ、疎外される。 従って女性が治療を求める率は男性のそれより圧倒的に低 いことも明らかにされた。予防処置に関しては、南アフリ カ社会では健康や病気は「清潔・不潔」の二項対立に沿っ て理解されているため、予防も「体を清潔にする」と信じ られている行為、例えばトイレ洗浄剤や過マンガン酸塩カ リウム、消毒薬などを服用すること、によって達成できる と考えられていることがわかった。

このように南アフリカ社会独特の様々なディスコースを 指摘し、エイズを含む性感染症はそれらのディスコースの なかに位置付けられ、理解されていることを明らかにする ことによって、シェーファーらはより有効的な健康増進の 開発に貢献したと考えられる。

最後に紹介するのは、現在進行中である筆者自身による 研究である。この研究ではシンガポールにおけるエイズと SARS (重症急性呼吸器症候群,以下 SARS) 政策の比較を 行っている。まず、シンガポールの感染症対策を分析した 結果,2つの特有の共通点が伺われた。1つ目は,エイズ, SARS において個別の対策委員会が政府レベルにおいて設 置されていることである。エイズにはエイズ・タスク フォース, SARS には SARS タスク・フォースが設置され ており, 共に閣僚委員会で, 疫学, 医学, 公衆衛生学の分 野からの専門家によって構成されている。2つ目は、感染 症対策が法律のバックアップによって強化されていること である。感染症対策を強化する法律の例としては、感染症 に関する法令と出入国に関する法令を挙げられる。感染症 に関する法令は保健省と環境省によって摘要され、その法 に基づいて届出制度,情報収集制度,対人規制などが定め られている。出入国に関する法令に関しては、シンガポー ル政府は2000年3月から永住許可証や雇用許可証、配偶 者許可証などを申請する外国人で,同国に6か月以上の滞 在を予定しているものに対し、HIV 検査並びに胸部レント ゲン検査の結果を記載した健康診断書の提出を義務付けて いる。結核または HIV に感染していることが判明した場 合,許可証は発給されず,また今後の入国も許可しないと

いう厳しい処置をとっている。しかし、感染症対策のこのような構造に関してはいくつかの共通点があるのにも関わらず、エイズと SARS への対策は対照的であった。シンガポール政府の SARS に対する対応は迅速で、かつ SARS の一般人口への蔓延を防ぎ、早期の収束に成功したことから、各国のメディアに取り上げられて賞賛されたのは読者の記憶にも新しいことと思う。しかし、エイズ対策においては、SARS 政策でみられたような最前線での積極的な政府の活動は目立たず、動向調査やスクリーニング以外は非政府組織に頼っている部分が大きい。本研究では、政策関連文書や政策報告書、関係者とのインタビューを書き起こしたものに対してディスコース・アナリシスを実施した。

そして、シンガポール政府は感染症をどのように捉えるのか、政府による感染症の様々な描写方法をテキストから探り分析した結果、2つの感染症への対応の違いは、シンガポール政府の「危機」に対する認識にあることが判明した。それはSARSは公衆、つまりシンガポール国民にとって脅威だと理解されていたため、危機管理的な対応がとられたのに対し、エイズは一般的な社会問題あるいは、国民が力を合わせて対処するべき国家問題とは捉えられていなかったため、政府による活動的、包括的な政策がとられなかったことが明らかになったのである。従って政府の感染症対策を左右する要因は、構造的なものだけではなく、その国独特の歴史や文化的背景が生み出す「危機に対する理解」のような認識的な要素も含まれることがわかった。

しかしその反面,新たな疑問も浮上した。それは政府の 「公衆」 の定義とは何なのかという疑問である。 なぜなら SARS 流行と比較して HIV 感染症蔓延の方が圧倒的に疾 病負担は大きく,人口や経済を含めた長期的な社会全体に 対する負担も大きいはずだからである。今後は、政府の 「公衆」の定義,すなわち「どのような人々が HIV 感染の リスク,そしてどのような人々が SARS 関連コロナウイル ス感染のリスクがあると認知されているのか」を検討して いく予定である。筆者はこのように、感染症政策を単純に レビューするだけではなく、質的に分析することによっ て、ある特定の社会における感染症の政治経済的、そして 社会的な意味を浮き彫りにし、感染症および感染症政策に 対してより理解を深めることができると考える。また、そ うすることによってシンガポールにおける感染症対策の多 諸国への応用性の適切な検討が可能となり、地域、そして 国際協力をより円滑にする努力に貢献できると考える。

まとめ

質的データを質的に分析するということは、そのデータの表面的な意味だけを用いるのではなく、その意味はどのようにして構成されているのか追求することである。本総

説で紹介したディスコース・アナリシスは、量的分析方法では得られない、質的な情報の会得を可能とする分析方法である。また、質的な情報とは言葉や文脈に反映される、その社会・国独特のディスコースのことを指す。しかし、ディスコースという質的情報を、テキストを通し分析するにあたっては、以下のことを必ずふまえる必要がある。まず、研究者が自らの認識論的な土台をしっかりと把握すること、次に、質的研究を量的研究の代わりとしてではなく、互いの弱点を補うといった目的で行うことである。そうすることによって、研究対象となる課題や問題に対する理解をさらに深めることができると筆者は考える。この総説を通し、質的研究の重要性と実用性を証明することによって、ディスコース・アナリシスをはじめ質的研究方法が幅広く活用されることを期待したい。

謝 辞

本総説の提出を促して頂いた順天堂大学丸井英二教授, また有益なコメントを頂いた山崎明美さん並びに山本則子 先生,高橋謙造先生,西浦 博先生,木村京子先生,遠藤 亜貴子さんに深く感謝いたします。

本研究は厚生労働科学研究費補助金(エイズ研究対策研究事業)による「アジア太平洋地域における国際人口移動から見た危機管理としての HIV 感染症対策に関する研究(主任研究者:石川信克)」の一環(野内分担分)として実施した。

注

1. ディスコース・アナリシスは談話分析として和訳されているのを見かけるが、ミッシェル・フーコーの社会論や権力論などに基づいている今回のディスコース・アナリシスとは別のものである。実際に社会学や文化研究の文献を調べると、それらの分野で活用されている discourse analysis はそのままディスコース・アナリシスと訳されているのでこの総説でもあえてそうした。

文 献

- 1) Kohler Riessman C: Narrative Analysis. Sage Publications, 1993.
- Lupton D: The condom in the age of AIDS: newly respectable or still a dirty word? A discourse analysis.
 Qualitative Health Research 4 (3): 304-320, 1994.
- 3) Finer D, Thuren T, Tomson G: TET Offensive-Winning hearts and minds for prevention: discourse and ideology in Vietnam's 'Health' Newspaper. Social Science and Medicine 47 (1): 133-145, 1998.

- 4) 1. ibid.
- 5) http://www.qsr.com.au/
- 6) Yamamoto N: Service use by family caregivers in Japan. Social Science and Medicine 47 (5): 677-691, 1998.
- 7) Green J: Commentary: Grounded theory and the constant comparative method. BMJ 316: 1064-1065, 1998.
- 8) Strauss A: Qualitative Analysis for Social Scientists. Cambridge University Press, 1987.
- 9) Justin R, Robinson R, Kang H: Beyond the tools; An exploration of rigor in qualitative social work research methods. Paper presented at The Eighth Annual Conference of the Society for Social Work and Research, 2004.

- 10) Ritzer G, Goodman DJ: Durkheim (Ritzer G and Goodman DJ eds.), Sociological Theory, McGraw Hill, 2004.
- 11) Durkheim E (Lukes S ed.): The Rules of Sociological Methods, Free Press, 1982.
- 12) Lupton D: The condom in the age of AIDS: newly respectable or still a dirty word? A discourse analysis. Qualitative Health Research 4 (3): 304-320, 1994.
- 13) Shefer T, Strebel A, Wilson T *et al*: The social construction of sexually transmitted infections in South African communities. Qualitative Health Research 12 (10): 1373-1390, 2002.