HIV/AIDS Knowledge, Attitudes and Risk Behaviours Among Orang Asli in Peninsular Malaysia

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SUMMARY

Orang Asli, the indigenous people of Peninsular Malaysia comprises only 0.5% of total Malaysia population but contribute to 0.06% of total notified HIV cases in the country. Their current knowledge, attitude and practice related to HIV was not known. A cross-sectional study on knowledge, attitude and practice among Orang Asli in Peninsular Malaysia was carried out involving 2,706 Orang Asli from 33 remote and 47 fringe villages. Generally, the level of knowledge was fair (30% - 50%) with mean scores of 55.7% (SD 31.7) while attitudes were negative. There was gender bias towards misconception on HIV transmission and sources of information. HIV seroprevalence of 0.3% was detected while risk behaviors were low. This study provides baseline information for HIV/AIDS preventive programs to the Orang Asli communities.

KEY WORDS:
Knowledge, Attitudes, Behaviours, HIV/AIDS, Orang Asli

INTRODUCTION

The Orang Asli is the indigenous minority peoples of Peninsular Malaysia. They comprise of 18 sub-ethnic groups and generally classified as Negrito, Senoi and Proto-Malay for official purposes. Numbered nearly 140,000 based on national census in 2000, they are distributed in 876 villages throughout Peninsular Malaysia out of which 365 (41.7%) are remote villages (categorized as P1 and P2), 505 (57.6%) fringe villages and 6 (0.7%) urban villages[8]. Majority of Orang Asli have access to electronic media.

To date, there are hardly any available information on HIV/AIDS and sexually transmitted infections (STIs) among Orang Asli, the indigenous peoples of Peninsular Malaysia, apart from the existing surveillance data. Previously, the Orang Asli was documented as 'other ethnics in Peninsular Malaysia' in the HIV/AIDS surveillance system, hence the small number in the national statistic. Current data showed that not more than 40 reported cases of HIV/AIDS among Orang Asli by the Ministry of Health until end of 2004 which attributed to only 0.06% of the total HIV/AIDS reported cases in the country[1].

The Orang Asli is perceived to be lacking in assessing either HIV/AIDS information or services provided by the government and NGOs. This is probably due to their small but 'hidden' and scattered populations which comprise only 0.5% of Malaysia population[2]. Furthermore, their geographical 'isolation' denies them from most public health outreach. Apart from that, their geographical distribution, unique socio-cultures, and multi-dialects may limit effective public health interventions as compared to what is available and accessible to the general populations.

In Malaysia, there is a strong reason to worry as the Orang Asli communities are now more readily exposed to the negative influences associated with HIV/AIDS such as unsafe sex and injecting drug use. Even though the community very much emphasizes on traditional values that prohibit sex outside marriage, urban migration as well as influx of 'outside people' into their villages have certainly introduced some degree of negative influences. The Orang Asli in Peninsular Malaysia are generally young (50% of them aged 20 years and below) while the educational levels and economic status are very much lower than the national average[2]. These factors may predispose them to many public health consequences including HIV/AIDS.

Studies among indigenous communities in many countries have shown that sexually transmitted infections (STIs), including HIV/AIDS, have become public health challenges in their populations. Many evidences have shown that socio-demographic and economic factors among aborigines have influenced sexual risk behaviours and drug abuse among them[3]. In central Australia, the nomadic lifestyle of the aborigines was associated with high prevalence of STIs[4]. Furthermore, the HIV prevalence among the aboriginal groups was found to be almost similar to that of the general population of Australia[5]. In contrast, a more recent study in Western Australia[6] and another study in Canada[7] showed that the rates of HIV and other STIs among aboriginal populations were much higher than the general population.

This study, the first of its kind in Malaysia, was conducted to glean baseline information on knowledge, attitudes and HIV related risk behaviours, including STIs, and related factors among the Orang Asli. It is of public health importance that this study may assist the stakeholders to identify, plan and implement effective and suitable methods of HIV/AIDS prevention and control program to the Orang Asli communities in Peninsular Malaysia.

This article was accepted: 5 July 2007
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MATERIALS AND METHODS

A cross-sectional study was conducted from February to December 2005 in seven states of Peninsular Malaysia which include Selangor, Perak, Pahang, Kelantan, Johor, Melaka and Negeri Sembilan. The study population was represented by samples of Orang Asli aged 13 years and above who live in remote and fringe villages through a multistage-stratified cluster sampling technique. For this study purpose, the respondents were grouped into three (3) main ethnic groups – Senoi, Proto Malay and Negrito.

Information on the study variables were collected either by self-administered questionnaires for well-read and educated respondents or through interview for those who were illiterate. The questionnaires, which were validated and pilot-tested by the research team, consist of five sections that include socio-demography, sections on HIV/AIDS knowledge, attitude and risk behaviors, and HIV seroprevalence. Knowledge on HIV/AIDS was assessed on the basic information on mode of HIV transmission and misconceptions (myths) about the infection. The knowledge scores were then categorized into poor (<30%), fair (30%-70%) and good (>70%). Attitudes towards HIV/AIDS was assessed through four items on the questionnaires related to respondents' attitudes on HIV/AIDS sufferers in which their responses were categorized into positive (scores of > 3) and negative (scores of < 3). HIV related risk behaviours include risks of sexual transmission (which include history of STIs) and also drug and substance abuse (including injecting drug use and alcohol consumption). HIV seroprevalence was determined by single rapid test kit (SD Bioline®1/2 3.0) with 100% sensitivity and 99.84% specificity. A positive reaction to the rapid test was interpreted as HIV seropositive. Respondents' consent were obtained before the test was conducted.

SPSS® Version 12.0 was used for data entry and analysis. Descriptive statistics and cross-tabulations were used to explore all the data. Univariate analyses including independent *t* test was used to compare means while chi-square test was used to detect the significance of association between categorical variables. For dichotomous variables with small cell sizes, Fisher's exact test was used. The level of significance (P value) was taken at 0.05.

RESULTS

Sociodemographic characteristics

Table I shows the distribution and socio-demographic characteristics of the respondents. A total of 2,706 respondents were selected from 33 remote villages and 47 fringe villages of Orang Asli. There were two main ethnic groups involved in this study with Senoi being the majority (60.5%). Slightly more than half of them were female and most of them (70%) were married. Their ages ranged from 13 to 82 years with a mean of 31.9 years (SD 14.25) while the largest percentage (28.3%) belonged to the 20-29 age groups. On religious background, animism was predominant group (53.6%) followed by Islam (32.7%) and Christianity (13.4%). About two-thirds of them had never attended school or only received primary school education and the majority of them (72.7%) had a household income of RM500 and below per month.

HIV/AIDS Knowledge

Generally, the study has found that the overall mean score of HIV/AIDS knowledge was 55.7% (SD 31.7) with majority (41.1%) have fair (30%-70% of correct scores) HIV/AIDS knowledge. Nearly 68% have ever heard about HIV and AIDS while 193 (7.2%) admitted to having relatives, friends or neighbours who have been infected with HIV. About 64% understood that HIV could be transmitted through sexual intercourse, sharing injecting drug equipments (66.5%) and contaminated blood transfusion (63%). Sixty-two percent knew that babies could get HIV infection from their mother during pregnancy but only 48.2% believed the disease can be transmitted through breastfeeding. On the other hand, only 38.8% and 49.2% of the respondents gave correct answers on whether a person can be infected through mosquito bites or by sharing food and public amenities while only 55.4% believed that it cannot be transmitted by shaking hands with infected persons. Nearly 60% of the respondents felt that HIV couldn't be cured. The study has also revealed that male respondents showed significantly higher proportions of giving correct answers on HIV/AIDS knowledge as compared to females (except regarding HIV transmission through breastfeeding) (Table II).

There were significant associations between levels of HIV/AIDS knowledge and location of villages, ethnicity, gender, age group, marital status, education status, and household income (Table III). Most respondents residing in fringe villages have good (45.6%) knowledge while those in remote villages mostly have fair (43.7%) knowledge. As for ethnic group, majority of the Proto Malay (47.3%) have good knowledge while majority of the Senoi (44.1%) have only fair knowledge. The male respondents were found to have higher proportion of fair (42%) and good (38.2%) knowledge as compared to their counterpart (40.8% and 35.4% respectively). The female respondents seemed to have higher proportion of poor knowledge (23.8%) as compared to male (19.8%). This study also revealed that while all age groups were mostly having fair knowledge, those above 50 year old mostly have poor knowledge. Respondents who were not married seemed to have higher proportion of fair (41.6%) and good (40.9%) knowledge as compared to those ever married (41.2% and 35.1% respectively). However, proportion with poor knowledge was higher among those ever married (23.7%) as opposed to only 17.5% in those not married. The proportion with good knowledge was higher with increasing level of education and household income.

Regarding HIV/AIDS information, the most popular source among the respondents was through electronic media, such as television and radio (87.4%), compared to public talks and health exhibitions (17.5%), printed mass media such as newspapers and magazines (12.9%), personal communication (6%) or through health flyers and pamphlets (5.5%). By gender comparison, female respondents were significantly lower in receiving HIV/AIDS information through electronic media (57.6% vs 62.1%, p = 0.016) and personal communication (2.9% vs 5.4%, p = 0.001) (Table IV).

Attitude towards HIV/AIDS

In general, majority of the respondents (64.7%) have negative attitudes towards HIV/AIDS. Sixty-eight percent of them said

that HIV/AIDS was the punishment for past wrong doings while 53.8% agreed that HIV/AIDS patients should be isolated from the community. Nevertheless, majority of them (75.1%) agreed to accept and take care of infected individuals among their family members. Almost 60% of them also agreed that HIV/AIDS patients are able to continue their normal life including to work, to be active in sport and to socialize.

It was also revealed in this study that respondents who live in fringe villages, were married, aged below 29 years, had higher education levels and high household income significantly had more positive attitude towards HIV/AIDS. Apart from that, respondents with good knowledge of HIV/AIDS were found significantly associated with positive attitude ($p<0.05$).

Risk behaviors of HIV/AIDS

Table V shows the distribution of HIV/AIDS related risk behaviors that were cited by the respondents. While the mean age was 19.7 (SD 3.84), there was a respondent as young as 12 years old reported to have had first sexual relationship. A total of 1,518 (97.4%) of those who admitted to have had sexual intercourse have a single sexual partner while 40 (2.5%) have more than one. Their sexual partners included spouses (97.6%), boyfriends or girlfriends (1.7%) and sex workers (0.7%). Eighty three (9.8%) of married male respondents said that they have more than one wife while 127 (12.1%) of married female respondents admitted that their husbands have other wives. Condom use among the respondents was found to be very low (4.6%), out of which most of the time was utilized as contraceptive method (59.3%) whereas only 17.3% as prevention of sexually transmitted infections. Nearly 60% of those who used condom did it voluntarily while the rest were asked by their partners. Regarding symptoms of STIs, 18 (0.7%) of the respondents had admitted to have history of urethral discharge and genital ulcers 7 (0.3%).

Small proportions of Orang Asli surveyed in the study were found to be involved in drug and substance abuse. Sixty four (2.4%) of the respondents admitted to have taken cough mixture, 28 (1%) cannabis, 4 (0.1%) psychotropic pills, 9 (0.3%) glue sniffing and 252 (9.3%) on other types of substance abuse. Fourteen respondents (0.5%) admitted they had injected drug during the past 12 months. Only a small percentage (0.3%) admitted to consume alcohol everyday, at least once a week (4.1%) and less than once in a week (7.2%).

HIV seroprevalence among respondents

Majority of the respondents (97%) had never undergone HIV testing before and did not know their status. Out of 2,364 (88.7%) respondents who consented for HIV testing, only seven (0.3%) of them showed seropositive results, out of which six were males. By locality, four of them were from fringe villages while the other three were from remote village. Six (85.7%) of them acquired infection through sexual transmission and another one through injecting drug use. Out of four seropositive cases who provided information on sexual behaviours, three (75%) had never used condom with their partner, either with their spouses or girlfriend. Further analysis revealed that the seropositive cases showed higher proportion of having high knowledge on HIV/AIDS but the association was not significant.

DISCUSSION

Generally, the study has found that the Orang Asli community in Peninsular Malaysia had fairly adequate knowledge of HIV/AIDS, as shown by the mean correct score

Table I: Sociodemograhic characteristics of respondents

Characteristics	No of respondents (n=2706)	%
Location of villages		
remote	1179	43.6
fringes	1527	56.4
Ethnic Group		
Proto Malay	1032	38.9
Senoi	1605	60.5
Others	18	0.7
Gender		
Male	1291	47.7
Female	1415	52.3
Age (years)		
13 - 19	587	22.1
20 - 29	752	28.3
30 - 39	614	23.1
40 - 49	372	14.0
≥ 50	335	12.6
Marital status		
Not married	778	28.9
Ever Married	1911	71.1
Educational status		
Not schooling	1008	37.4
Primary education	956	35.5
Secondary education	714	25.4
Tertiary education	15	0.6
Household income per month (RM)		
≤ RM500	1671	72.7
RM501 – RM1000	550	23.9
> RM1000	77	3.4

Table II: Percentage of correct answers* to selected questions on knowledge on HIV/AIDS among Orang Asli by Gender

Questions on HIV/AIDS	No. (%) of respondents who had answered correctly			P-value*
	Total	Male	Female	
1. A person can be infected with HIV by having sexual intercourse with HIV- infected partner[a]	1728 (64.4)	850 (66.3)	878 (62.7)	0.002
2. A person can be infected with HIV by sharing food or public amenities[b]	1325 (49.2)	648 (50.4)	677 (49.2)	0.015
3. A person can be infected with HIV through mosquito bites[b]	993 (36.8)	485 (37.7)	508 (36.0)	0.034
4. A person can be infected with HIV by shaking hands with infected person[b]	1491 (55.4)	757 (59.0)	734 (52.2)	0.001
5. A person can be infected with HIV by sharing drug-injecting equipments[a]	1789 (66.5)	874 (68.0)	915 (65.1)	0.003
6. A person can be infected with HIV through contaminated blood transfusion[a]	1695 (63.0)	837 (65.2)	858 (60.9)	0.001
7. A baby can be infected from HIV-infected mother during pregnancy[a]	1696 (62.0)	812 (63.2)	857 (60.8)	0.033
8. A baby can be infected through breastfeeding from HIV-infected mother[a]	1297 (48.2)	617 (48.1)	680 (48.3)	0.055
9. A person who is infected with HIV can be cured[b]	1576 (58.7)	748 (58.4)	828 (58.8)	0.017

[a]Answers with definitely 'yes' was scored as correct.
[b]Answers with definitely 'no' was scored as correct.
Percentage are based on those responding to specific questions (ranging from 99.3% – 99.6%).
*Chi-square test; P value < 0.05 is considered significant.

Table III: Level of knowledge on HIV/AIDS among respondents (%) based on sociodemographic characteristics

Sociodemographic characteristics	Poor (n=593)	Fair (n=1119)	Good (n=994)	P-value*
Location of villages				
remote	366 (31.0)	515 (43.7)	298 (25.3)	0.000
fringes	227 (14.9)	604 (39.6)	696 (45.6)	
Ethnic Group				
Proto Malay	164 (15.9)	380 (36.8	488 (47.3)	0.000
Senoi	415 (25.9)	708 (44.1)	482 (30.0)	
Others	2 (11.1)	7 (38.9)	482 (30.0)	
Gender				
Male	256 (19.8)	542 (42.0)	493 (38.2)	0.038
Female	337 (23.8)	577 (40.8)	501 (35.4)	
Age (years)				
13 - 19	108 (18.4)	267 (45.5)	212 (36.1)	0.000
20 - 29	118 (15.7)	326 (43.3)	308 (41.0)	
30 - 39	120 (19.5)	258 (42.0)	236 (38.4)	
40 - 49	91 (24.5)	140 (37.6)	141 (37.9)	
≥ 50	144 (43.0)	106 (31.6)	85 (25.4)	
Marital status				
Not married	136 (17.5)	324 (41.6)	318 (40.9)	0.001
Ever married	452 (23.7)	788 (41.2)	671 (35.1)	
Educational status				
No schooling	394 (39.1)	414 (41.1)	200 (19.8)	0.000
Primary education	154 (16.1)	430 (45.0)	372 (38.9)	
Secondary education	35 (4.9)	270 (37.8)	409 (57.3)	
Tertiary education	4 (26.7)	2 (13.3)	9 (60.0)	
Household income per /month				
≤ RM500	435 (26)	723 (43.3)	513 (30.7)	0.000
RM501 – RM1000	59 (10.7)	176 (32)	315 (57.3)	
> RM1000	3 (3.9)	24 (31.2)	50 (64.9)	
Attitude				
Negative	437 (25.3)	756 (43.7)	536 (31)	0.000
Positive	135 (14.3)	354 (37.5)	455 (48.2)	

*Chi-square test; P value < 0.05 is considered significant.

Table IV: Source of AIDS-related information among Orang Asli by Gender

Source of information	No. (%) of information source cited by respondents			P-value*
	Total	Male	Female	
1. Electronic mass media (television, radio, internet etc)	1,614 (87.4)	800 (62.1)	814 (57.6)	0.016
2. Printed mass media (newspapers, magazines etc)	239 (12.9)	122 (9.5)	117 (8.7)	0.274
3. Public health talks/exhibitions	328 (17.5)	164 (12.7)	164 (11.6)	0.367
4. Health flyers, pamphlets, posters etc	102 (5.5)	54 (4.2)	48 (3.4)	0.277
5. Personal communications	110 (6.0)	69 (5.4)	41 (2.9)	0.001

*Chi-square test; P value < 0.05 is considered significant.

Table V: Distribution of HIV related risk behaviours among respondents

Risk behaviours	No. of respondents (n)	Percentage* %
Ever consume drug/substance		
Cough mixture	64	2.4
Ecstasy pills	2	0.1
Glue sniffing	9	0.3
Cannabis	28	1.0
Heroin	4	0.1
Others	249	9.2
Ever injecting drug during the past 12 months	14	0.5
Frequency alcohol ingestion for the past 1 month		
Everyday	7	0.3
Less than once a week	193	7.2
At least once a week	109	4.1
Age at first sexual intercourse		
mean (SD)	19.7 (3.84)	
range	12 - 40	
Having more than one sexual partner		
Two	30	1.9
Three	7	0.4
More than three	3	0.2
Types of sexual partner		
Spouse	1648	97.6
Paid/Prostitutes	12	0.7
Boyfriend/girlfriend	29	1.7
Condom use for the past 1 month (a)	81	4.6
Reason for condom use (as in (a))		
Contraception	48	59.3
STD prevention	14	17.3
Others	19	23.4

*Percentage is based on those responding to specific questions (valid percent).

of about 56% (SD 31.7). However, their level of knowledge was very much lower than those found in other non-indigenous population in Peninsular Malaysia. A study done in 2002 among youths (aged 15 – 21 years) in both urban and rural areas in Malaysia showed a rate of more than 90%[9, 10]. We feel that the level of HIV/AIDS knowledge among Orang Asli is after all not too bad as compared to native American Indians[11] who were having quite a low level of HIV/AIDS knowledge.

Further analysis on each particular item under the domain of HIV/AIDS knowledge showed that even though majority of the respondents correctly identified the four modes of HIV transmission, some of them still harbor misconceptions regarding HIV transmission through mosquito bites and sharing personal items or public amenities. These myths, nevertheless, are still prevalent in the general population in Malaysia[10, 12] and also in many communities worldwide. We found that the remoteness of the villages was significantly associated with levels of HIV/AIDS knowledge, education levels and economic status among the communities, and these results are similarly found by other studies among aboriginal or indigenous people elsewhere[13].

Female respondents in this study were more likely to misunderstand most of the HIV transmission modes than males. The authors feel that their knowledge was largely influenced by the source of AIDS-related information as males were significantly found to acquire most of AIDS-related information from electronic media and personal communication as compared to females. This finding, however, contrasts with the study among rural populations in Senegal which showed that women improved their AIDS-related knowledge more markedly through radio media, local meetings among them and health flyers commonly found in health centers[14]. Nevertheless, our result was similar to other studies[15] which indicated that the low level of HIV knowledge among women might contribute to their high risk of HIV infection[16].

We also believe that majority of the Orang Asli are not aware of the availability of current antiretroviral therapy offered by

the government. Quite a significant proportion believed that a cure for AIDS is available. Such misconception may encourage the practice of risky behavior by creating the false impression in them that they will be cured if infected with HIV. Certainly, sociodemographic factors may have impact on the levels of AIDS-related knowledge among the Orang Asli apart from media access. However, these aspects need to be explored to assist in better prevention and education among this 'forgotten' communities.

In general the Orang Asli in this study showed a negative attitude towards HIV/AIDS. But with better level of HIV/AIDS knowledge, they showed more positive attitude. Hence, there is a need to create and increase HIV/AIDS awareness among the Orang Asli that focus on attitude change.

This study revealed that risky sexual behaviors among the respondents were observed to be very low - only 0.7% of them ever had sex with prostitutes while a very few proportion was promiscuous. However, we could not determine the structure of the sexual networks among these communities who practice unsafe sex with an underlying risk of STIs and HIV/AIDS because of the complex socio-cultural factors. As observed in indigenous population in Australia which might as well happened in other populations, only when an HIV-infected individual enters this network that transmission occurs [17, 18].

Relocation or migration of indigenous people from rural to urban for better job opportunity is not uncommon. Along the way, they might have been exposed to HIV infection through sex workers, homosexual contact or injecting drug use. But they remain connected to their home land. This circular migration provide vector for HIV and other infection that are currently less in these communities. These scenarios give implication on the need for multiple interventions especially on the socio-cultural conditions that bring the risk of HIV transmission into their communities. Regarding condom use, even though only less than 5% of the respondents ever used it and out of which less than one-fifth used for STDs prevention, we believed that the condom use rate for STD prevention was reasonably high as seen by the lower rate of reported STD symptoms among them. Nevertheless, as reported by Lye *et al*[19] and Choon *et al*[10], there is a need to educate people on condom use, if indicated, in preventing STDs including HIV/AIDS.

Through HIV testing among the nearly 90% of the respondents, the study has found out that the rate of HIV seropositivity (0.3%) was arguably lower than the estimated rate of HIV among adult populations in Malaysia which was in the range of 0.4% to 0.5% (WHO, 2004). Taking into consideration the use of rapid HIV testing in the study, we believed that the rate might be even lower as the predictive positive value of the test might have been smaller in populations with low HIV prevalence. Perhaps, serosentinel surveillance on HIV and STI should be instituted to monitor trend of the infection among this community. We found that majority with HIV seropositive had sexual exposure and practiced unsafe sex (did not use condom) with their partners. Traditional belief such as ancestral protection against illness can mitigate against taking HIV precaution as explained by Liddell and Bydawell[20] in a study among South African indigenous people. This implicates the urgent need for focused programs targeting on behavioral modification for attitude change and life skills to these high risk groups of Orang Asli. The rate of HIV infection through injecting drug use in this study was in contrast with the Orang Asli Affairs Department report that showed high prevalent of cases through injecting drug use[8]. This is best explained by the facts the study population was recruited from either remote or fringe areas as opposed to those in the report who probably have traveled or migrated to urban areas and acquired HIV infection through injecting drug use. Nonetheless, looking at the very low rate of drug and substance abuse among the Orang Asli community in this study population, risk of HIV is predominantly heterosexual and efforts on preventing HIV/AIDS epidemic into the community should be geared along this line.

Finally, the study has revealed that the rate of universal HIV testing among the respondents was very low and this was expected as concentration of risk factors for HIV transmission among these communities was minimal. However, the uptake was surprisingly high after they were offered HIV testing. As shown in a study in Australia[21], high uptake of HIV testing in high-risk groups in remote aboriginal communities can be achieved where a high level of confidentiality is maintained and this provides significant opportunity for the government in scaling-up voluntary confidential testing to the community.

CONCLUSION

This study has suggested that even after more than two decades of HIV/AIDS epidemics in the country, more targeted information, education and communication programs are needed for marginalized populations such as the Orang Asli communities in order to correct their misconceptions regarding HIV transmission and also to reduce unfounded fears or stigmatization toward people living with HIV/AIDS with special attention to remote areas. It is highly recommended that HIV/AIDS education and communication should be gender sensitive and tailored to the audiences' different needs to maximize their effectiveness.

Research have revealed that access to public health services and "culturally appropriate" care, not sexual behaviors, that needs to be addressed in aboriginal health[22]. Last but not least, the Ministry of Health, through its respective State Health Departments, supported by the Orang Asli Affairs Department and other relevant non-governmental organizations (NGOs), must continue to strengthen their current efforts in HIV/AIDS promotion, preventive and care programs to the Orang Asli communities in the country.

ACKNOWLEDGEMENTS

We would like to extend our appreciation to the Orang Asli Hospital in Gombak and volunteers from the local villages for the assistance of their dedicated staff. We are also grateful to the Selangor State Health Department for the funding of the study.

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