health status of YOUTH IN MALAYSIA

NMRR-10-759-6675

INSTITUTE FOR PUBLIC HEALTH • MINISTRY OF HEALTH MALAYSIA
NATIONAL POPULATION AND FAMILY DEVELOPMENT BOARD (LPPKN) • MINISTRY OF WOMEN, FAMILY AND COMMUNITY

ISBN: 978-983-3887-74-3

Suggested citation:

NoorAni A, Tahir A, Noridah MS, Norliza A, NikRubiah NAR, Norlzzati B, NoorAzlin MS, Noraida MK, Ismahalil I, NurAkmarAR. Health Status of Youth in Malaysia: Institute for Public Health (IPH), 2012.

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DISCLAIMER

The views expressed in this paper are those of the authors alone and do not necessarily represent the opinions of the other investigators participating in the survey, nor the views or policy of the Ministry of Health.

ACKNOWLEDGEMENT

The authors would like to thank the Director-General of Health Malaysia for his permission to publish this research report.

We would like also to express appreciation to the Director of National Service Trainee Department and the Director of the Institute for Public Health for their support throughout the research.

This research project was accomplished with budget support from the Ministry of Health and the Ministry of Women, Family and Community Development. Sincere thanks from the authors to both ministries. Our gratitude to all who have assisted in the implementation of the research, from the Camp Commandants, Assistant Medical Officers at the various camps, data collectors and drivers, without whom the research would not have been accomplished. Last but not least, our sincere appreciation is extended to all national service trainees who had participated and contributed their time and successful implementation of this project.

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EXECUTIVE SUMMARY

This study reports the result of health screening of 22,840 youths in 2010, from 80 camps Malaysia. Based on the anthropometric assessment, 21.6% of the respondents were underweight, 18.1% pre-obese and 10.3% obese. About 0.3% of them had body image disorders; perceived obese even though were noted to be underweight with anthropometric assessment. With regards to sexual and reproductive risk behaviors, 39.6% admitted viewing pornographic materials, 28.5% admitted practiced masturbation, 6.5% engaged in premarital sexual relationship, 5.5% reported having multiple partners and 1.6% reported involvement in homosexual relationship. History of abortion was disclosed by 0.5% of the respondents. Almost a quarter of the adolescents admitted as smokers, with 8.7% reported consumed alcohol and 1.4% admitted taking drug. The study also revealed that 6.2% of respondents reported to have past involvement in bully and 14.1% in fight. About 7.1% of the respondents revealed they had been physically abused while 1.2% of them had been sexually abused.

Based on the scoring system, 27.5% of the adolescents were found to have mental health problems, 9.8% had experienced depression, 20.7% had anxiety and 11.8% had suicidal ideation.

Psycho-social problems such as substance use, anti-social behavior, physical/sexual abuse and mental health problems among youth are interrelated with common risk and protective factors.

Management of psycho-social problems in adolescent should be holistic; looking into risk and protective factors. Programs and interventions to strengthen the protective factors among youth such as family connectedness and religiosity are recommended.

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ABBREVIATIONS

WHO	World Health Organisation
UN	United Nations
UNICEF	The United Nations Children's Fund
USA	United States of America
HIV	Human Immunodeficiency Virus
STD	Sexually Transmitted Diseases
MPFS	Malaysian Population and Family Survey
NPFDB	National Population and Family Development Board
DALY	Disability-Adjusted Life Year
NHMS	National Health and Morbidity Survey
PDRM	Polis Diraja Malaysia
NST	New Straits Times
IC	Identity Card Number
SPSS	Statistical Package for the Social Sciences
NS	National Service
CPG	Clinical Practise Guidelines
BMI	Body Mass Index
SRH	Sexual and Reproductive Health
BDD	Body Dysmorphic Disorder

1 INTRODUCTION

BACKGROUND

World Health Organisation, WHO, define adolescents as persons aged 10-19 years. Youth is defines as persons between the ages of 15 to 25 years, while young adults are defined as between the ages 10 to 25 years. Adolescence can be categorized into early adolescent (10-15 years), mid-adolescents (16-17 years) and late-adolescents (18-19 years). Adolescents and youth make up roughly 20% of the total world population. In developing countries, adolescents and youth have an even higher demographic weight, for instance, 26% in Salvador compared to only 14% in the United States of America (USA).[1] For a number of years, the health of adolescents and youth has not been a major concern and research has consequently been limited as they are less susceptible to disease and suffer from fewer life-threatening conditions than children and elderly people. Indeed, adolescence and youth are generally described as a period of relatively good health with low prevalence of infection and chronic diseases.

Research in 1996 among 25,000 middle-class high-school students aged between 15-18 years on five continents, revealed that similar values and concerns occurred among adolescents from developed and developing nation. According to the study, [2] growing up in developed countries does not mean that their problems are minimized. A gender gap seems to exist irrespective of the setting, in that males express greater self-confidence, less vulnerability, and more happiness, pride and subjective sense of well-being than females. Conversely, feamles have a higher self and body awareness than males, and they tend to be less satisfied not only with their body, but also their appearance, their health and their personality.[3] Young girls from western nations are more prone to problems such as eating disorders, whilst young girls from developing countries apparently have a higher risk of suicide. Majority of youth also think that they are in good health, and they tend to feel invulnerable, with little motivation to protect their health "capital" for the future.[3] This has a direct bearing on health promotion strategies.

Mortality and morbidity trends among adolescents and youths are quite similar in developing and developed countries.[3] It is noteworthy that health services in developing countries focus on preschool-aged children and pregnant women, with the consequence that health needs of adolescents and youths may not be adequately met. However, adolescents and youth are very vulnerable to major social and economic changes, with resulting behaviours that threaten health, including increased and unprotected sexual activity; substance use; and propensity to risk-taking.

It may be said that adolescents and youth are a nutritionally vulnerable group for a number of specific reasons, including their high requirements for growth, their eating patterns and lifestyles, their risk-taking behaviours and their susceptibility to environmental influences. Inadequate nutrition in adolescence may potentially retard growth and sexual maturation, although these are likely consequences of chronic malnutrition in early infancy and childhood. It can affect adolescents' current health and put them at high risk of chronic disease as well, particularly if combined with other adverse lifestyle patterns, even if the detrimental effects may take long time to show.

Even in countries like the USA and Canada, adolescents and youth are considered as a nutritionally vulnerable subgroup because of their eating behaviours.[3] Adolescents and youths, particularly females, are increasingly conscious of their body and this has a bearing on their diet. Teenage females may excessively restrict their energy intake out of a desire to be thin, which is an additional factor of health risk.

In the Minnesota Adolescent Health Survey,[4] 12% of girls reported chronic dieting, 30% binge eating, and 12% self-induced vomiting. Such disordered eating behaviours were high among non-overweight girls. Dissatisfaction with weight was highly prevalent even among the non-overweight girls (and some boys). It is of major concern, since body dissatisfaction is the strongest predictor of disordered eating behaviours, whereas a positive body image was a strong protective factor. Higher rates of body satisfaction, lower perceptions of overweight,and less dieting were observed in African-Americans than in white girls.[5] Some of the risk factors for intake inadequacies and unhealthy weight-control practices included low socio-economic status, minority status, poor school achievement, low family connectedness and weight dissatisfaction. In Malaysia, study done by the International Medical University's (IMU), Malaysia found that 10% of female teenagers suffer from eating disorders.[6]

Other than nutrition problems, reproductive health is also a major concern particularly with the threat of human immunodeficiency virus (HIV), other sexually transmitted diseases (STD) and early pregnancy. One third of new STD cases, more than half of the new HIV infections and one third of all births are reported among late adolescents. In both developed and developing countries, the increasing incidence and prevalence of STI/HIV among adolescents and youths present a serious challenge to their health and well-being.[7] WHO estimated that the incidence rate of sexually transmitted diseases in USA is 1 in 17 or 5.62%. Majority of these infections occur in developing countries, at a higher prevalence and incidence than in developed countries. In Malaysia, based on routine HIV/AIDS Surveillance, Ministry of Health, new cases among 13-19 years of age, increased from 0.9% to 1.2% in 2004 and 2010, respectively. New cases of gonorrhoea among 13-19 years of age also increased from 17.4% to 20.0% in 2004 and 2010 respectively. New cases of syphilis among same age group also increased from 3.2% to 8.8% during the same six years period.[8]

Based on the Malaysian Population and Family Survey (MPFS) done by National Population and Family Development Board (NPFDB), in 2004, 16.7% of youth aged 13 to 24 years had no objection to homosexual lifestyle. Data from MPFS 2004 had also revealed that sources of pornography were from pictures (18.6%), video (10.1%) and magazines (8.0%).[9] Study among secondary school in Negeri Sembilan showed that 5.4% of the respondents reported to have had sexual intercourse.[10] Based on antenatal records registered with the government clinics Ministry of Health, adolescent pregnancies contributed to 1.5% to 2.5% of total new cases. In 2010, a total of 5,962 new antenatal cases among 10-19 years old had been registered at Ministry of Health primary care facilities from July to December, of which 25% were unmarried.[11] Data from a private clinic, reported that within a year 5% of 3,504 abortion seekers were among adolescents less than 20 years, with the youngest at 14 years old.[12]

The vast majority of tobacco users worldwide begin during adolescence. Today more than 150 million adolescents use tobacco and this number is increasing globally.[13] Studies done in Malaysia revealed the prevalence from 8.7% - 37%.[14 -19] Harmful drinking among young people is also an increasing concern in many countries as it will reduce self-control and increase risky behaviours. It is also a primary cause of injuries (including those due to road traffic accidents), violence (especially domestic violence), and premature deaths.[20] Prevalence of alcohol consumption among adolescents in Malaysia were influenced by target population; 20.8% in a school-based study [10] and 16.2% in a nation-wide household study.[16]

Risk behavior such as anti-social behavior among adolescents is a growing problem in Malaysia. Study among adolescents in a rural land development scheme in Peninsular Malaysia, noted a prevalence of 14.4% for bullying,[21] while another study among secondary school children in Negeri Sembilan reported a prevalence of 27.9% for physical fight.[10]

Mental health problems among adolescents is recognized as a major cause of morbidity in most community. The Malaysian Burden of Disease 2004 study acknowledged the major contribution of mental illnesses towards the total disease burden in Malaysia (21% of total years lived with disability in both males and females) and the highest total disease burden in young adults 15-29 years is attributed to mental illness (24.0% of DALY in males and 38% in females).[14] In 2006, national survey in Malaysia reported 6.4% prevalence of acute suicidal ideation.[17] The prevalence of suicidal ideation among young people 16-19 years and 20-24 years were 11.4% and 10.8%, respectively.

The same study showed the prevalence of psychiatric morbidity among 16-19 years and 20-24 years were 14.4% and 12.1%, respectively.

Abuse is also a problem in adolescent and youth. Study in Australia noted that the prevalence of physical abuse among adolescents was 28%, with 16% had been abused sexually,[23] while in US, the prevalence of physical abused and sexual abused were 25% and 16%, respectively.[24] Malaysia passed the Child Protection Act (CPA) to protect abused cases in 1991.[25] Since then, reported rape among 13-18 years cases had increased from 1,475 in 1990 to 2,299 in 2008.[26]

Increasingly, research and intervention programme have shown that it is neither feasible nor productive to focus on one isolated behaviour without addressing a broader set of adolescent health concerns. In addition, there is mounting evidence that the most effective interventions enhance protective factors of young people and do not simply attempt to reduce risk.

Concurrent with this increased focus on young people, there have been an increasing number of research exploring factors associated with a number of health outcomes. There has also been a rising interest in identifying those factors that not only predispose to harm but also diminish risk.[27] These factors are known as 'risk' and 'protective' factors. Factors are called "protective" if they discourage one or more behaviours that might lead to negative health outcomes or encourage behaviours that might prevent a negative health outcome. Factors are labelled "risk" if they either encourage or are associated with one or more behaviours that might lead to a negative health outcome or discourage behaviours that might prevent them.[28]

In Malaysia, there is a lack of nation-wide survey focusing on the overall health status of the adolescents and youth. A representative evidence is needed by the stakeholders to provide a basis in developing a comprehensive program towards improving health status of the adolescents and youths.

2 OBJECTIVES

GENERAL OBJECTIVE

To determine the health status and life style behaviours among youths attending the National Service Programme in Malaysia.

SPECIFIC OBJECTIVES

i. To determine the prevalence of nutritional problems
ii. To determine the prevalence of sexual-reproductive risk behaviours
    - Sexually transmitted infection
    - Pornography viewing
    - Masturbation
    - Homosexual tendency
    - Premarital Sexual relationship
    - Homosexual relationship
    - Promiscuity
    - History of pregnancy
    - History of abortion
iii. To determine the prevalence of smoking habit, alcohol consumption, and drug abuse
iv. To determine the prevalence of anti-social behaviours, such as bully and fight
v. To determine the prevalence of history of been abused either physically or sexually
vi. To determine the prevalence of mental health problems

3 METHODS

This is a cross-sectional study involving participants who attended the three sessions of the National Service (NS) programme in 80 centres throughout Malaysia. The first and second sessions of the NS training comprised of adolescents who have just completed Form Five, and the third session comprised of adolescents who were school-leavers and working youths. A total of 28,000 trainees were recruited in each session. The trainees were selected randomly from a sampling frame of 450,000 adolescents from the National Registry Department using a computerized process. This frame consists of all adolescents of Malaysian citizens irrespective of place of birth; either locally or overseas.

All participants in these camps were invited to participate in this study by responding to the health screening done using the Adolescent Health Screening Form (BSSK/R/1/2008), which was also used routinely at all health clinics in the Ministry of Health Malaysia. The screening was done in the first two weeks of admission to the camps. The forms were then collected from consented participants at the end of each session; from May to December 2010. This screening form assessed five main areas namely; nutrition, physical health, sexual and reproductive, risk behaviours, and mental health. The sample size required was calculated based on the lowest expected prevalence of study scopes among adolescents. Based on the expected prevalence of drug abuse (ecstasy) of 1.2%, with a precision (d) of 0.0024, normality assumed, and compensation for 20% non-response rate, the required minimum sample size was 9490 respondents, rounding it off to 10,000 respondents.

The raw data was processed and entered for data analysis using Statistical Package for Social Science (SPSS) programme. Data cleaning was carried out followed by analysis. Significant level was pre-set at 0.05 and 95% confidence intervals were reported where appropriate. Data was analysed step-by-step using univariate, bivariate and multivariate controlling for possible confounders.

This study was approved by the Medical and Ethics Committee of the Ministry of Health, NMRR- 10-759-6675. All information gathered from the study was kept confidential.

4 FINDINGS

4.1 SOCIO-DEMOGRAPHIC PROFILE

A total of 69,062 trainees were trained at 80 camps throughout Malaysia in the year 2010. However, only 22,840 forms were able to be analyzed giving a response rate of only 33.1%.

Among those who responded; 64.9% were Malays, 22.1% were Chinese and 7.2% were Indians. The ethnic distribution was comparable to the Malaysian distribution based on Census 2010. By camp sessions, respondents were equally represented in all three sessions.

Findings of the study revealed that majority of the respondents were between the ages of 18 to 20 years old. By sex, there was slightly more males than females (54.5% vs 45.5%). Majority of the respondents had attained secondary education level and were unmarried. The demographic profiles as shown in **Table 1**.

TABLE 1 Sociodemographic Profile of the Study Sample (*n* = 22810)

Variable	n	%
Age (years)		
18 - <20 years	22147	97.1
20 - <25 years	663	2.9
Sex		
Male	12438	54.5
Female	10370	45.5
Ethnicity		
Malay	14759	64.9
Chinese	5014	22.1
Indian	1645	7.2
Sabahan	522	2.3
Sarawakian	438	1.9
Others	350	1.5
Religion		
Muslim	15237	67.1
Buddhist	4534	20.0
Hindu	1498	6.6
Christian	1325	5.8
Others	117	0.5
Education levels		
No formal education	82	0.4
Primary education	430	2.0
Secondary education	21038	95.9
Tertiary education	391	1.8
Marital status		
Single	22329	99.7
Married	55	0.2
Divorcee/widow/er	11	0.05
Camp session		
First	7536	33.0
Second	8793	38.6
Third	6480	28.4

4.2 HEALTH STATUS

Based on CPG (2004 definition, 21.6% of the youths were underweight, 18.1% were pre-obese and 10.3% were obese **(Figure 1)**. Only 0.3% perceived as having body image disorders. Overall, 41.6% of the youths reported sexual reproductive health problems with 39.6% admitted viewing pornographic materials,

28.5% reported practiced masturbation, and 1.6% admitted of engaged in homosexual relationship. Among unmarried youths, 6.5% admitted engaged in premarital sexual relationship with 5.5% admitted of history of sexual relationship with more than one partners. History of abortion was reported among 0.5% of them **(Figure 2)**. Overall, 27.4% of the youths reported substance use. Almost a quarter of them admitted as smokers, with 8.7% reported consumed alcohol and 1.4% admitted to having used drug **(Figure 3)**. Overall, 15.5% of the youths reported antisocial behavior with 6.2% reported involved in bully and 14.1% admitted involved in fight **(Figure 4)**. Overall, 7.6% of respondents reported history of abused. The prevalence of physical abuse among youths was reported as 7.1%, while sexual abuse was reported in 1.2% of the youths **(Figure 5)**. Based on the scoring for screening of the mental health problems; 27.5% of the youths were found to have mental health problems, with depression in 9.8% of the youths, anxiety in 20.7% and suicidal ideation in 11.8% **(Figure 6)**.

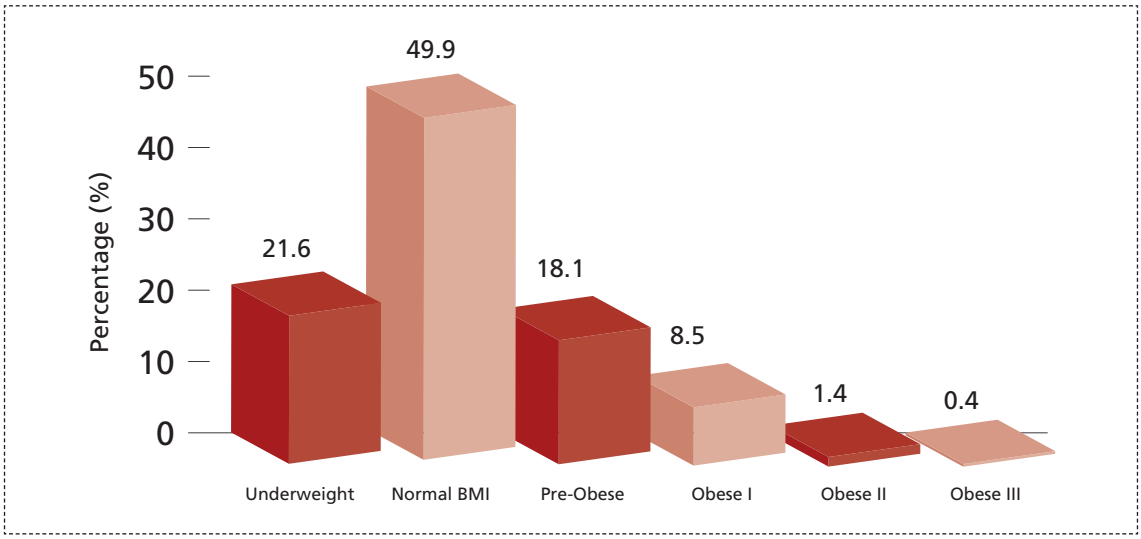

FIGURE 1 Nutritional status of the youth in Malaysia, 2010

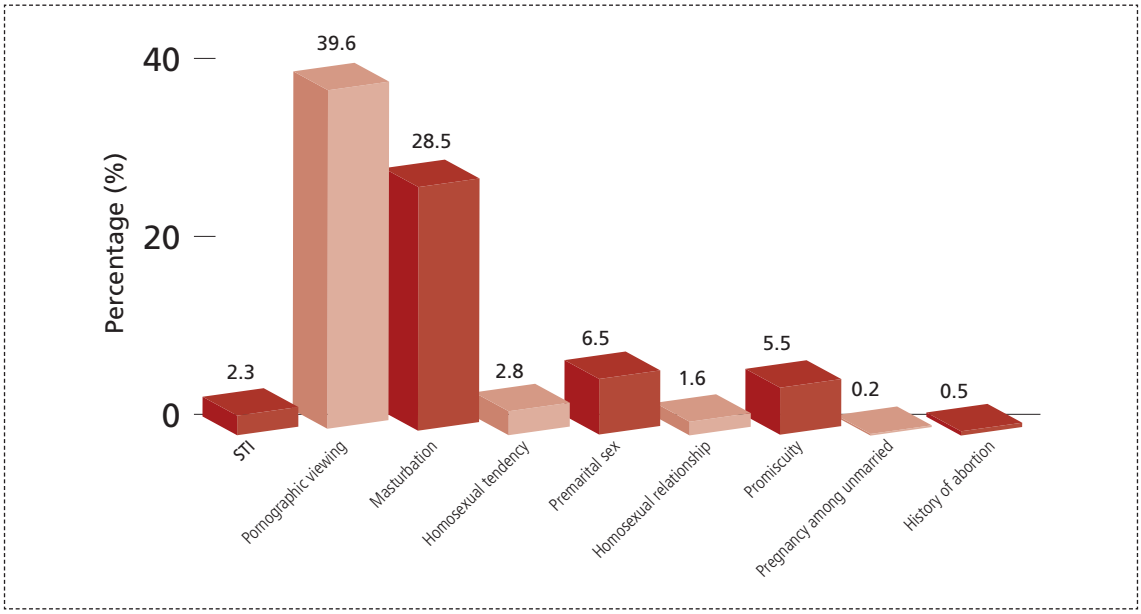

FIGURE 2 Sexual reproductive health problems of the youth in Malaysia, 2010

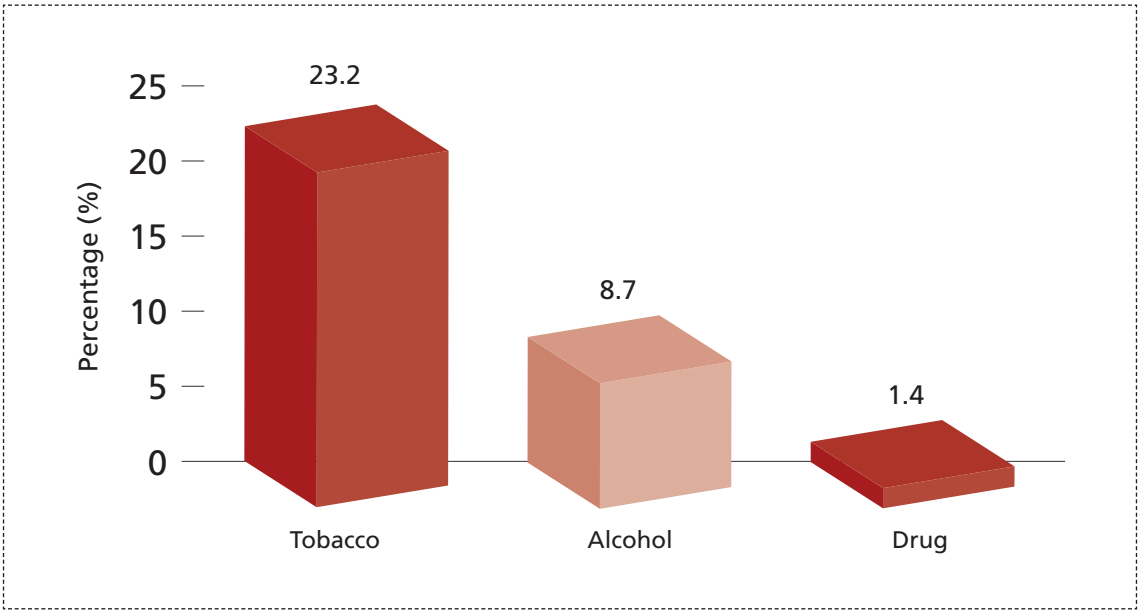

FIGURE 3 Substance use among youth in Malaysia, 2010

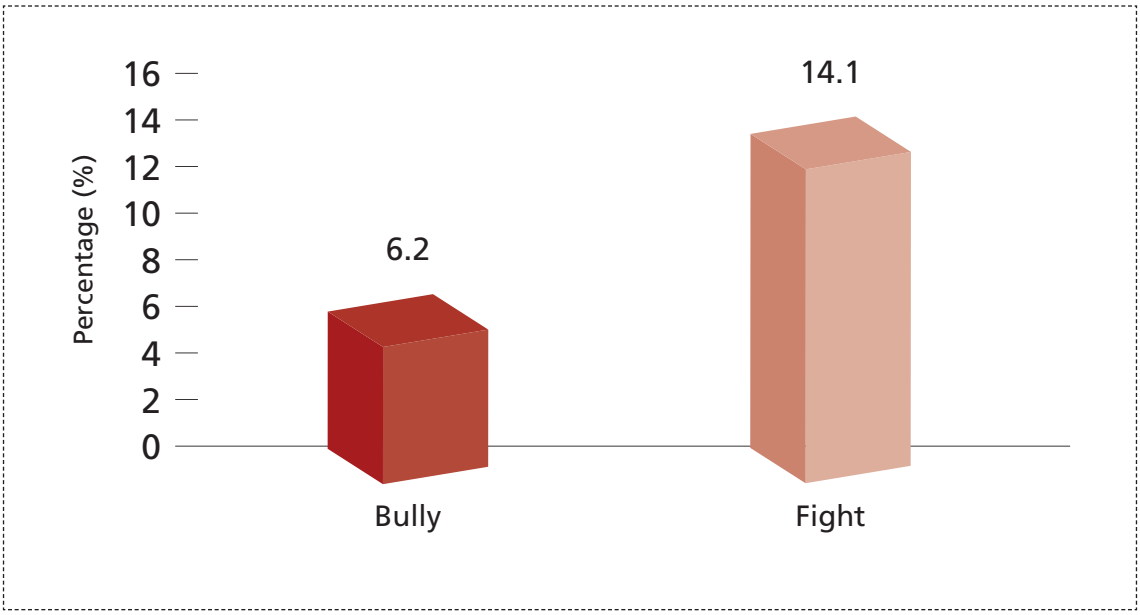

FIGURE 4 Antisocial behaviour among youth in Malaysia, 2010

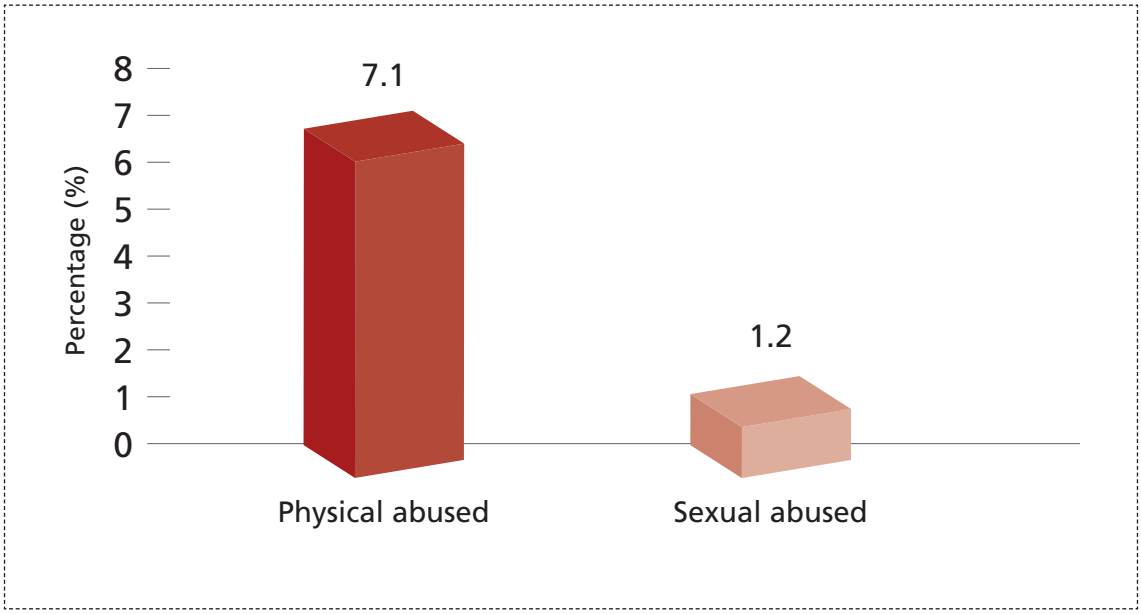

FIGURE 5 History of physical/sexual abused among youth in Malaysia, 2010

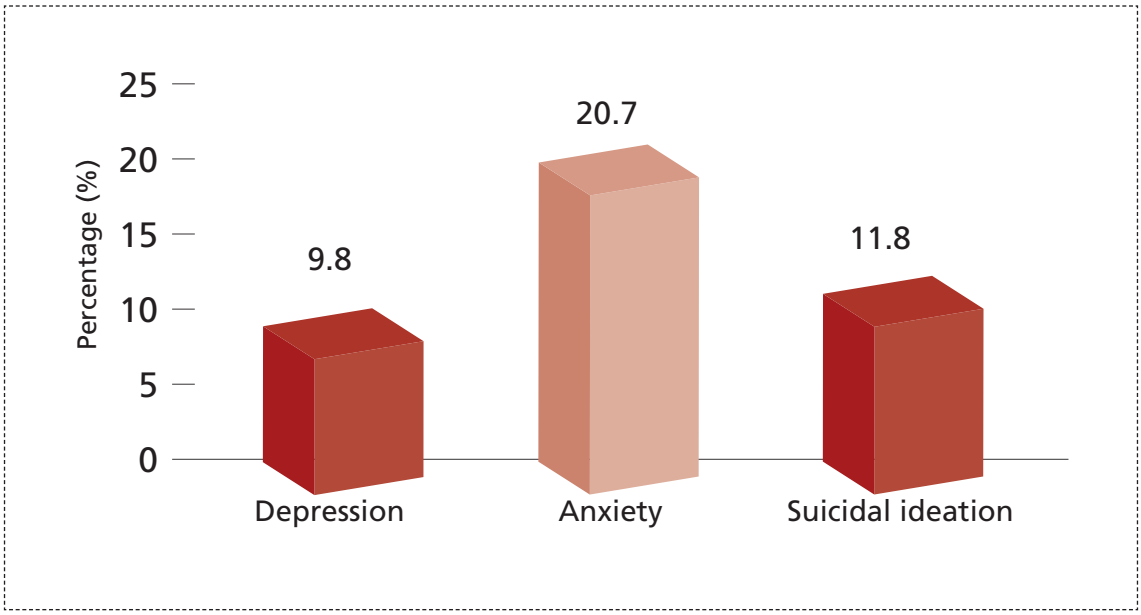

Figure 6 Mental health problems among youth in Malaysia, 2010

4.3 FACTORS ASSOCIATED WITH HEALTH PROBLEMS IN YOUTHS

Bivariate and multivariate analyses were performed to determine the association between identified risk and protective factors with various health problems in youths.

i. Factors associated with obesity among youths

This study had noted that obesity among youths was significantly higher among older youths (78% higher among 20 to 25 years compared to 18 to 20 years), lower among males (10% lower among males compared to females) and lower among Chinese (30% lower among Chinese compared to Malays), while controlling for other factors, such as practicing regular exercise, family history of diabetes, hypertension or heart disease and family history of obesity.

Risk factors that associated with obesity are 'did not exercise adequately' (19% higher risk), family history of diabetes (40% higher risk), family history of hypertension (20% higher risk), and family history of obesity (three times higher risk), while controlling for other factors **(Table 2)**.

TABLE 2 Association between obesity with exercise and selected family risk factors

Variable	Obese BMI ≥27.5	Not Obese BMI <27.5	p-value*	Crude Odds Ratio (95%CI)	Adjusted Odds Ratio (95%CI)#
Age (years)					
20-<25 18-<20	74 (13.9%)	457 (86.1%)	0.004	1.45 (1.13 –1.86)	1.78 (1.23-2.60)
18-<20 20-<25	1684 (10.1%)	15027 (89.9%)		1.0§	1.0§
Sex					
Male	950 (10.2%)	8383 (89.8%)	0.934	1.0 (0.91 – 1.11)	0.91(0.79 -1.03)
Female	808 (10.2%)	7100 (89.8%)		1.0§	1.0§
Ethnicity					
Malay	1140 (10.5%)	9752 (89.5%)	<0.001		1.0§
Chinese	338 (8.6%)	3598 (91.4%)			0.71 (0.60 -0.84)
Indian	164 (12.9%)	1104 (87.1%)			1.20 (0.95 – 1.52)
Others	112 (10.3)	975 (89.7%)			1.07 (0.83 – 1.37)
Practice regular exercise					
Yes	728 (9.7%)	6809 (90.3%)	0.034	1.0§	1.0§
No	789 (10.7%)	6577 (89.3%)		1.12 (1.01 –1.25)	1.19 (1.05 – 1.35)
Family History of Diabetes					
Yes	412(14.8%)	2369 (85.2%)	<0.001	1.77(1.57-2.01)	1.40(1.19-1.65)
No	970(8.9%)	9891 (91.1%)		1.0§	1.0§
Family History of Hypertension					
Yes	617 (13.0%)	4143 (87.0%)	<0.001	1.58(1.41-1.77)	1.20(1.04-1.39)
No	779 (8.6%)	8265 (91.4%)		1.0§	1.0§

Variable	Obese BMI ≥27.5	Not Obese BMI <27.5	p-value*	Crude Odds Ratio (95%CI)	Adjusted Odds Ratio (95%CI)#
Family History of Heart Disease					
Yes	160 (13.6%)	1019 (86.4%)	<0.001	1.47(1.23-1.75)	1.04(0.83-1.29)
No	1178 (9.7%)	11008 (90.3%)		1.0§	1.0§
Family History of Obesity					
Yes	208 (23.8%)	667 (76.2%)	<0.001	3.11(2.63-3.68)	2.69 (2.22-2.60)
No	1128 (9.1%)	11247 (90.9%)		1.0§	1.0§

Note:
* : significance at p<0.05
\# : adjusted for all other variables
§ : reference group

ii. Association between pre-marital sex with selected risk and protective factors

For the sexual and reproductive health (SRH) problems, this report only focused on premarital sex as an indicator of SRH problems. A total of 16281 youths responded to this section, resulted in 71.4% response rate. Multivariate analysis had noted that premarital sex was significantly higher among older youths (three times higher among 20 to 25 years as compared to 18-20 years), and lower among Indians and "Other" ethnicity compared to Malays, while controlling for other factors such as antisocial behavior, substance use, anxiety, depression, suicidal ideation, history of abused, religiosity and family connectedness.

Premarital sex was noted as significantly associated with other risky behaviours; almost three times higher among youths who involved in bully and/or fight, and 3.5 times higher among those who used substances such as tobacco, alcohol or drugs, while controlling for other factors. Furthermore, premarital sex was found as 37% higher among youths with suicidal ideation, and twice higher among those with history of physical or sexual abused, while controlling for other factors. This study noted religiosity as the protective factor for premarital sex; twice lower to be engaged in premarital sex, while controlling for other factors **(Table 3)**.

TABLE 3 Association between Premarital Sex with Selected Risk and Protective Factors

Variable	Premarital Sex	No Premarital Sex	p-value*	Crude Odds Ratio (95%CI)	Adjusted Odds Ratio (95%CI)#
Age (years)					
20-<25	67 (13.3%)	438 (18.2%)	<0.001	2.28 (1.75- 2.97)	2.71 (1.96 – 3.75)
18-<20	992 (6.3%)	14,784 (93.7%)		1.0§	1.0§
Sex					
Male	780 (9.2%)	7730 (90.8%)	<0.001	2.71 (2.36 – 3.12)	1.07 (0.88 – 1.31)
Female	279 (3.6%)	7492 (96.4%)		1.0§	1.0§
Ethnicity					
Malay	633 (6.1%)	9889 (93.9%)	<0.001		1.0§
Chinese	324 (324 %)	3427 (91.4%)			1.17 (0.96 – 1.43)
Indian	40 (3.5%)	1118 (96.5%)			0.61 (0.41 – 0.89)
Others	61 (6.1%)	941 (93.9%)			0.94 (0.67 – 1.31)
Antisocial Behavior					
Yes	456 (19.5%)	1887 (80.5%)	<0.001	5.44 (4.71 – 6.21)	2.88 (2.42 – 3.44)
No	577 (4.3%)	12995 (95.7%)		1.0§	1.0§
Substance Use					
Yes	661 (16.5%)	3354 (83.5%)	<0.001	5.99 (5.25-6.83)	3.51 (2.91-4.23)
No	378 (3.2%)	11485 (96.8%)		1.0§	1.0§
Anxiety					
Yes	310 (9.5%)	2965 (90.5%)	<0.001	1.75 (1.52-2.01)	1.17 (0.96-1.42)
No	702 (5.6%)	11750 (94.4%)		1.0§	1.0§
Depression					
Yes	191 (12.6%)	1321 (87.4%)	<0.001	2.42 (2.04-2.86)	1.04 (0.80-1.36)
No	783 (5.6%)	13092 (94.4%)		1.0§	1.0§
Suicidal					
Yes	215 (11.7%)	1627 (88.3%)	<0.001	2.19 (1.87-2.57)	1.37 (1.07-1.74)
No	790 (5.7%)	13086 (94.3%)		1.0§	1.0§
Physical/Sexual Abused					
Yes	187 (16.6%)	940 (83.4%)	<0.001	3.44 (2.90-4.09)	1.73 (1.39-2.16)
No	785 (5.5%)	13579 (94.5%)		1.0§	1.0§
Religiosity					
Yes	726 (5.4%)	12678 (94.6%)	<0.001	1.0§	1.0§
No	132 (13.3%)	859 (86.7%)		2.68 (2.20-3.27)	2.01 (1.57-2.59)
Family Connectedness					
Yes	978 (6.3%)	14547 (93.7%)	<0.001	1.0§	1.0§
No	54 (11.2%)	428 (88.8%)		1.88 (1.40-2.51)	1.19 (0.82-1.72)

Note:
* : significance at p<0.05
\# : adjusted for all other variables
§ : reference group

iii. Substance used and selected risk and protective factors.

A total of 21,509 youths responded to this section, with a response rate of 94.3%. Analysis had found that 23.2% of youths admitted ever smoked, 8.7% admitted ever consumed alcohol and 1.4% admitted ever abused drug. Overall, 27.4% of respondents admitted ever used any substance in their life.

Ever smoked was noted as twice higher among younger youths and 29 times higher among males, while, ever consumed alcohol was lower among younger youths and four times higher among males, and ever used illicit drug was seven times higher among males **(Table 4)**.

Further analysis looking into risk and protective factors noted that males were a significant risk factor, (eight times higher) while substance use was significantly lower among Chinese and Indians, compared to Malays, while controlling for other factors. Other risk factors for substance use were antisocial behavior (four times higher), SRH problems (four times higher), depression (50% higher), physical and/or sexual abused (20% higher). Religiosity and family connectedness were noted as significant protective factors for substance use. Youths who were less religious were 30% higher risk to engage in substance used, while youths who lack family connectedness were twice higher to use substance **(Table 5)**.

TABLE 4 Substance used by socio-demographic profiles (n= 21509)

Variable	Ever smoked	Ever consumed alcohol	Ever used illicit drug
Age (years)			
18-<20	4947 (23.4%)	1739 (8.4%)	296 (1.4%)
20-<25	95 (14.9%)	103 (16.3%)	5 (0.8%)
	OR: 1.8 (1.41,2.18)	OR: 0.5 (0.38,0.59)	P=0.229
Sex			
Male	4817 (40.5%)	1495 (13.1%)	267 (2.4%)
Female	225 (2.3%)	347 (3.5%)	34 (0.3%)
	OR: 29.1 (25.3, 33.3)	OR: 4.1(3.65,4.64)	OR: 7.1(4.95,10.13)
Ethnicity			
Malay	4019 (28.5%)	457 (3.3%)	224 (1.6%)
Chinese	513 (10.7%)	951 (20.0%)	39 (0.8%)
Indian	178 (11.5%)	179 (11.6%)	12 (0.8%)
Others	311 (24.6%)	242 (19.3%)	26 (2.1%)
	P<0.001	P<0.001	P<0.001

TABLE 5 Association between substances used with selected risk and protective factors

Variable	Substance Use	No Substance Use	p-value*	Crude OR (95% CI)	Adjusted OR# (95% CI)
Age (years)					
20-<25	171 (26.9)	464 (73.1)	0.809	1.0(0.86-1.22)	1.2 (0.93-1.65)
18-<20	5712 (27.4)	15162 (72.6)		1.0§	1.0§
Sex					
Male	5404 (46.0)	6356 (54.0)	<0.001	16.5 (14.91-8.16)	7.8 (6.56-9.20)
Female	479 (4.9)	9270 (95.1)		1.0§	1.0§
Ethnicity					
Malay	4069 (29.2)	9856 (70.8)	<0.001		1.0§
Chinese	1151 (24.3)	3585 (75.7)			0.8 (0.69-0.91)
Indian	257 (16.9)	1266 (83.1)			0.4(0.33-0.54)
Others	381 (30.2)	879 (69.8)			1.4(1.13-1.78)
Antisocial behavior					
Yes	1979 (61.8)	1221 (38.2)	<0.001	6.32(5.83-6.85)	3.7(3.30-4.21)
No	3573 (20.4)	13930 (79.6)		1.0§	1.0§
Sexual-reproductive problems					
Yes	4131 (44.7)	5118 (55.3)	<0.001	28.6 (22.20-36.87)	3.8 (2.77-5.23)
No	63 (2.7)	2233 (97.3)		1.0§	1.0§
Anxiety					
Yes	1301 (31.0)	2898 (69.0)	<0.001	1.3 (1.21-1.40)	1.1 (0.93-1.22)
No	4142 (25.7)	12002 (74.3)		1.0§	1.0§
Depression					
Yes	739 (37.6)	1224 (62.4)	<0.001	1.8 (1.62-1.96)	1.5(1.28-1.86)
No	4528 (25.3)	13356 (74.7)		1.0§	1.0§
Suicidal					
Yes	765 (32.5)	1587 (67.5)	<0.001	1.4 (1.26-1.51)	1.0 (0.82-1.18)
No	4661 (25.9)	13320 (74.1)		1.0§	1.0§
Physical/sexual abused					
Yes	716 (47.4)	795 (52.6)	<0.001	2.7 (2.46-3.05)	1.2 (1.03-1.43)
No	4559 (24.7)	13866 (75.3)		1.0§	1.0§
Religiosity					
Yes	4420 (25.6)	12828 (74.4)	<0.001	1.0§	1.0§
No	440 (35.4)	802 (64.6)		1.5 (1.41-1.80)	1.3 (1.10-1.64)
Family connectedness					
Yes	5393 (26.7)	14829 (73.3)	<0.001	1.0§	1.0§
No	268 (43.9)	343 (56.1)		2.2 (1.83-2.53)	1.9(1.46-2.50)

Note:
* : significance at p<0.05
\# : adjusted for all other variables
§ : reference group

iv. Association between anti-social behaviour with selected risk and protective factors

A total of 21,279 youths responded to this section, with a response rate of 93.2%. Anti-social behaviors are defined as involved in either fight or/and bully. Analysis had noted that 14.1% of youths had reported history of involvement in fight, while 6.2% of the youths admitted as involved in bully before. Overall, 15.5% youths admitted history of anti-social behavior.

This study had found that antisocial behavior was higher among older youths and significantly higher among males. By ethnicity, Chinese was at lower risk to be involved in antisocial behavior while Indian youths were more likely to be involved in antisocial behaviors compared to the Malays.

By selected risk factors, antisocial behaviours were noted as higher among youths who used substance (adjusted OR: 3.84), youths with SRH problems (adjusted OR: 2.52), anxiety (adjusted OR: 1.48), depression (adjusted OR: 1.64), and youths with suicidal ideation (adjusted OR: 1.36). Religiosity was noted as significant protective factor for antisocial behavior **(Table 6)**.

TABLE 6 Association between antisocial behaviour with selected risk and protective factors

Variable	Antisocial Behaviour	No Antisocial Behaviour	p-value*	Crude OR (95% CI)	Adjusted OR# (95% CI)
Age (years)					
20-<25	65 (10.2%)	571 (89.8%)	<0.001	1.63 (1.25-2.11)	2.1 (1.45-3.04)
18-<20	3223 (15.6%)	17420 (84.4%)		1.0§	1.0§
Sex					
Male	2519 (22.0%)	8942 (78.0%)	<0.001	3.32 (3.04-3.61)	3.84 (3.40-4.33)
Female	769 (7.8%)	9049 (92.2%)		1.0§	1.0§
Ethnicity					
Malay	2211 (16.0%)	11603 (84.0%)	<0.001		1.0§
Chinese	597 (12.9%)	4036 (87.1%)			0.78 (0.67-0.91)
Indian	274 (18.3%)	1225 (81.7%)			1.99 (1.60-2.48)
Others	195 (15.4%)	1071 (844.6%)			1.01 (0.80-1.27)
Substance use					
Yes	1979 (35.6%)	3573 (64.4%)	<0.001	6.32 (5.83-6.85)	3.84 (3.40-4.32)
No	1221 (8.1%)	13930 (91.9%)		1.0§	1.0§
Sexual-reproductive problems					
Yes	2343 (25.4%)	6897 (74.6%)	<0.001	5.21 (4.37-6.20)	2.52 (1.10-3.19)
No	144 (6.1%)	2208 (93.9%)		1.0§	1.0§
Anxiety					
Yes	1028 (24.2%)	3222 (75.8%)	<0.001	2.17 (1.99-2.36)	1.48 (1.30-1.67)
No	2103 (12.8%)	14288 (87.2%)		1.0§	1.0§
Depression					
Yes	631 (31.8%)	1353 (75.8%)	<0.001	3.10 (2.97-3.44)	1.64 (1.38-1.90)
No	2377 (13.1%)	15790 (86.9%)		1.0§	1.0§
Suicidal					
Yes	684 (28.6%)	1705 (71.4%)	<0.001	2.61 (2.37-2.88)	1.36 (1.15-1.60)
No	2432 (13.3%)	15824 (86.7%)		1.0§	1.0§
Religiosity					
Yes	2576 (14.8%)	14869 (85.2%)	<0.001	0.67 (0.58-0.77)	1.0§
No	3223 (15.6%)	17420 (84.4%)		1.0§	1.36 (1.10-1.67)
Family connectedness					
Yes	3099 (15.2%)	17333 (84.8%)	<0.001	0.60 (0.50-0.73)	1.0§
No	143 (23.0%)	480 (77.6%)		1.0§	1.16 (0.89-1.51)

Note:
* : significance at p<0.05
\# : adjusted for all other variables
§ : reference group

v. Association between history of physical or sexual abuse with selected risk and protective factors.

A total of 20,490 youths responded to this section, with a response rate of 89.7%. This study had revealed that 6.4% of youths reported history of being abused physically, while 1.1% reported history of sexual abuse. Overall, 6.9% of respondents had reported either physical or sexual abused.

History of being abused physically or sexually were 32% higher among males and 26% lower among Chinese compared to Malays. History of being abused either physically or sexually was higher among youths who use substance (1.2 times higher), had SRH problems (twice higher), had anxiety problems (1.7 times higher), had depression (1.6 times higher), suicidal (1.5 times higher), and antisocial behaviour (2.4 times higher). Religiosity was noted as significant protective factor against being abused either physically or sexually **(Table 7)**.

TABLE 7 Association between history of physical/sexual abused with selected risk and protective factors

Variable	H/o Abused	No H/o Abused	p-value*	Crude OR (95% CI)	Adjusted OR# (95% CI)
Age (years)					
20-<25	50 (8.2%)	563 (91.8%)	0.617	1.08(0.80-1.45)	0.95 (0.63-1.45)
18-<20	1513 (7.6%)	18364 (92.4%)		1.0§	1.0§
Sex					
Male	1150 (10.4%)	9885 (89.6%)	< 0.001	2.55 (2.27-2.87)	1.32 (1.08-1.63)
Female	412 (4.4%)	9042 (95.6%)		1.0§	1.0§
Ethnicity					
Malay	1049 (7.9%)	12302 (92.1%)	< 0.001		1.0§
Chinese	304 (6.9%)	4118 (93.1%)			0.74 (0.60-0.91)
Indian	109 (7.6%)	1327 (92.1%)			0.91 (0.67-1.26)
Others	96 (7.9%)	1120 (92.1%)			1.00 (0.74-1.34)
Substance used					
Yes	795 (5.4%)	13866(94.6%)	< 0.001	2.74(2,44-3.05)	1.24 (1.05-1.46)
No	716 (13.6%)	4559 (86.4%)		1.0§	1.0§
Sexual-reproductive problems					
Yes	80 (3.5%)	2199 (96.5%)	< 0.001	3.76 (2.98-4.74)	2.08 (1.54-2.83)
No	1065 (12.0%)	7786 (88.0%)		1.0§	1.0§
Anxiety					
Yes	569 (14.1%)	3474 (85.9%)	< 0.001	2.64 (2.36-2.95)	1.74 (1.48-2.06)
No	922 (5.8%)	14855 (94.2%)		1.0§	1.0§
Depression					
Yes	361 (19.2%)	1522 (80.8%)	< 0.001	3.63(3.19-4.13)	1.57 (1.27-1.95)
No	1073 (6.1%)	16417 (93.9%)		1.0§	1.0§
Suicidal					
Yes	386 (17.1%)	1877 (82.9%)	< 0.001	3.08(2.72-3.49)	1.45 (1.18-1.78)
No	1099 (6.3%)	16452 (93.7%)		1.0§	1.0§
Anti-social					
Yes	921 (5.4%)	16117 (94.6%)	< 0.001	4.23(3.78-4.74)	2.39 (2.04-2.79)
No	583 (19.5%)	2409 (80.5%)		1.0§	1.0§

Variable	H/o Abused	No H/o Abused	p-value*	Crude OR (95% CI)	Adjusted OR# (95% CI)
Religiosity					
Yes	1264 (7.4%)	15863 (92.6%)	< 0.001	1.0§	1.0§
No	121 (9.9%)	1098 (90.1%)		1.38 (1.14-1.68)	1.36 (1.10-1.67)
Family connectedness					
Yes	1466 (7.5%)	18066 (92.5%)	< 0.001	1.0§	1.0§
No	66 (11.3%)	517 (88.7%)		1.57 (1.21-2.04)	1.16 (0.89-1.51)

Note:
* : significance at p<0.05
\# : adjusted for all other variables
§ : reference group

vi. Association between mental health problems with selected risk and protective factors

A total of 20,732 youths responded to this section, with a response rate of 90.9%. Diagnosis of mental health problems were based on the scoring system which had been validated before. This study had noted that, 20.7% of youths had anxiety problems, 9.8% were depressed and 11.8% had suicidal ideation. Overall, 25% had mental health problems; either having anxiety problems, depression or suicidal.

Mental health problems were higher among youths who use substance (1.2 times higher), had SRH problems (twice higher), history of physical/sexual abuse (twice higher), and anti-social behaviors (1.8 times higher). Religiosity and family connectedness were noted as protective against mental health problems **(Table 8)**.

5 DISCUSSION

The findings of this study provide baseline information on the health status of youths in Malaysia. The prevalence of body image disorders of 0.3% was much lower than the estimated local prevalence. A local study using Figure Rating Scale had found that a significant proportion of adolescent are not satisfied with their body weight, leading to them having a poor body image [30]. A study in western country had reported that the prevalence of Body Dysmorphic Disorder (BDD) in an ethnically diverse sample of youths (N = 566) using the Body Image Rating Scale, was 2.2% [30, 31]

This study had noted inverse relationship between obese youths and exercise. This relationship was also noted in a study done in US and Canada.[32, 33] Our study also revealed significant association between obese youths and parental obesity. Parental obesity is the most important risk factors for obesity in childhood and adolescent which might persist into adulthood.[34, 35] Relationship with parental obesity was also noted in our study. However, our study was not able to look into the association between dietary practices and overweight, as the information given did not show the actual practices of these youths as the youths were given standard menu during the three months program. Response rate was also not satisfactory as the anthropometric measurement was not considered as compulsory during the screening and only done in 75% of the respondents.

In relation to sexual-reproductive health problems, our study noted that, more than one-third of the youths admitted viewing pornographic materials and more than a quarter had masturbated. A total of 6.5% of youths reported ever had premarital sex, 5.5% were had more than one partners and 2.3% admitted having symptoms of sexually transmitted infection.

The prevalence of premarital sex in this study was higher than MPFS study in 2004 (2.2%) among 13 to 24 years and another study done in Negeri Sembilan in 2001 among adolescents 12-19 years which showed 5.4%.[10] Our study had noted that premarital sex was associated with older youths, and established risk factors such as substance used, suicidal ideation, history of been abused and not religious. This finding was lower than other local studies done among unmarried adolescents aged 15-21 years, i.e. 13% and 9%.[36, 37]

This study had revealed that the prevalence of reported ever smoked among 20-24 years was lower than findings from NHMS III;[17] 14.9% and 33.8%, respectively. However, the prevalence of reported ever consumed alcohol among 20-24 years was comparable with findings from NHMS III ;[17] 16.3% and 16.2% respectively. Based on this study, 1.4% of youths had admitted ever use illicit drug, which was lower than the estimated prevalence of drug addicts in Malaysia by the Malaysian Psychiatric Association which was 4%.[22] Prevalence of ever smoked and ever consumed alcohol was higher in males, which were also found in other studies.[38-40] Findings from our study is comparable with various studies done in Brazil and Caribbean, that noted that health risk behaviours such as substance use was significantly associated with risk factors such as abused,[27, 28, 41] depressive symptoms,[41,42] sexual-reproductive problems such as multiple sexual partners and pregnancy [27] and antisocial behavior.[43] Findings from our study were also comparable with other studies, in which religiosity [28, 41, 42, 43] and family connectedness [27, 28, 41, 43] were among the recognized protective factors against substance abused.

In relation to anti-social behaviours, this study had noted that 6.2% of the youths admitted had bullied others, while 14.1% had admitted involved in fight. In US, the 1999 Youth Risk Behaviour Surveillance survey found that 44.0% of males and 27.3% of females had been in one or more physical fights in the past year.[44] Local studies had noted a prevalence of 14.4% for bullying [21] and 27.9% for physical fight.[10] There is a significant association between substance use and violence in adolescents and youths which also seen in other study.[45] Studies had also noted that the youths who are being bullied and those who are bullies are at an increased risk of depression and suicide.[46] This study had found that religiosity and family connectedness are protective against violence. Other studies had found that protective factors that may help buffer the risk of youths violence include enjoying warm, supportive relationships with parents or other adults.[47]

Pertaining to violence, our study had revealed that reported history of been abused physically or sexually was higher among males and associated with substance use, antisocial behaviors, sexual-reproductive problems, anxiety, depression, suicidal and not religious. Similar findings were also noted in studies done in Australia and US, while history of sexual abuse is significantly independently associated with antisocial behavior,[48] whereas history of childhood maltreatment are associated with depression or suicidal ideation.[49]

Mental health problems among the youths were significantly higher among females and associated with history of physical and/or sexual abused, anti-social behavior, reproductive health problems, substances used, not religious and lack of family connectedness. The prevalence of suicidal ideation was 11.8% which is an area for concern. Studies had noted that suicide attempts were associated with friends or family members attempting or completing suicide; physical or sexual abused; using alcohol, marijuana, or other drugs; while discussing problems with friends or family, emotional health, and connectedness to family were protective against suicide.[48,51]

LIMITATIONS

A number of limitations should be considered when interpreting the finding from this study.

1. Analysis of secondary data (readily available self-administered screening form)
    - missing values as the screening was not compulsory
    - many forms are not usable (illegible, no vital information such as age)
2. Underreporting as the forms were not anonymous
3. Findings cannot be infer to youths in Malaysia due to poor response rate; only 33.1% responded.
4. The data was collected within the first 2 weeks of 3 month compulsory programme thus increases emotional feeling such as anxiety and sadness.

6 CONCLUSION

Prevalence of obesity was noted as 11.3% and higher among older males who did not exercise, and significantly associated with family history of obesity and diabetes. Prevalence of reported premarital sex was 6.5% and associated with substance use, suicidal ideation, history of been abused and not religious. Reported substance use was found in 27.4% of respondents and associated with abused, depressive symptoms, sexual reproductive problem and antisocial behavior. The prevalence of reported antisocial behavior was 15.5% and associated with substance used, SRH problems, anxiety, depression and suicidal ideation. Reported history of abused was found in 6.9% of respondent and associated with substance used, SRH problems, anxiety, depressive symptoms, suicidal and antisocial behavior. Mental health problems was noted in 25.0% of respondents and associated with substance used, SRH problems, abused and antisocial behavior. This study revealed that the psycho-social problems are interrelated with common risk and protective factors.

RECOMMENDATIONS

1 . Intervention should start early; during childhood or early adolescence.
2. For obesity, the American Heart Association Childhood Obesity Research Summit recommended family-based behavior intervention which has shown evidence of long-term success when introduced among early adolescence. In Malaysia, combination of school-based and family-based intervention should be the best option.
3. Management of psycho-social problems in adolescent should be holistic; looking into risk and protective factors.
4. Program and intervention should focus on strengthening of protective factors among youths.

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8 ANNEXES

Versi 2.0 Tarikh: 13 Feb 2008

INVESTIGATOR'S AGREEMENT, HEAD OF DEPARTMENT'S AND INSTITUTIONAL APPROVAL

PERSETUJUAN PENYELIDIK, PENGESAHAN KETUA JABATAN DAN INSTITUSI

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Research Title: *[Tajuk Penyelidikan]*	HEALTH STATUS OF NATIONAL SERVICE TRAINEES IN MALAYSIA
Protocol Number if available: *[Nombor Protokol jika ada]*	

Investigator agreement ***[Persetujuan penyelidik]***
I have understood the above titled proposed research and I agree to participate in the research as an investigator.
Saya faham cadangan penyelidikan yang bertajuk di atas dan saya bersetuju menjadi bahagian dalam projek tersebut sebagai penyelidik

Name of Investigator *[Nama Penyelidik]*	DR. NOOR ANI AHMAD
IC number *[Nombor KP]*	670610 - 02 - 5160
Institution *[Institusi]*	INSTITUT KESIHATAN UMUM
Signature & Official stamp *[Tandatangan dan Cop Rasmi]*	DR. NOOR ANI BINTI AHMAD (NO. PENDAFTARAN PENUH MPH: 30163) PAKAR PERUBATAN KESIHATAN AWAM (O/T) BAHAGIAN PEMBANGUNAN KESIHATAN KORPORAT INSTITUT KESIHATAN UMUM KEMENTERIAN KESIHATAN MALAYSIA
Date *[Tarikh]*	9 JULAI 2010

Head of Department Agreement ***[Persetujuan Ketua Jabatan]***
I agree to allow the above named investigator to conduct or to participate in the above titled research
Saya membenarkan pegawai yang bernama di atas untuk menjadi penyelidik dalam projek penyelidikan tersebut di atas

Name of Head *[Nama Ketua]*	DR. TAHIR BIN ARIS
Name of Department and Institution *[Jabatan dan Institusi]*	DR. TAHIR BIN ARIS No. Pendaftaran Penuh MPH: 28418 Pengarah Institut Kesihatan Umum Kementerian Kesihatan Malaysia
Signature & Official stamp *[Tandatangan dan Cop Rasmi]*	
Date *[Tarikh]*	12/8/10

Institutional approval ***[Pengesahan Institusi]***
This section maybe omitted if one of the NIH institute is authorized to approve on behalf of institution. Refer NIH for details *[Bahagian ini tidak perlu jika salah satu daripada institusi NIH diberi kuasa pengesahan bagi pihak institusi tersebut. Rujuk NIH untuk maklumat lanjut]*
I agree to allow the investigator(s) named above to conduct or to participate in the above titled research. Where applicable, I further agree to allow my institution to be one of the sites participating in the research.
Saya membenarkan pegawai yang bernama di atas menjalankan penyelidikan selaku penyelidik dalam projek penyelidikan tersebut. Jika berkenaan, saya juga membenarkan institusi ini menjadi bahagian dalam projek tersebut

Name of Director *[Nama pengarah]*	
Name of Institution *[Nama Institusi]*	DATO' ABDUL HADI BIN AWANG KECHIL Ketua Pengarah Jabatan Latihan Khidmat Negara Kementerian Pertahanan
Signature & Official stamp *[Tandatangan dan Cop Rasmi]*	
Date *[Tarikh]*	12/8/2010

Versi 2.0 Tarikh: 15 Feb 2008

INVESTIGATOR'S AGREEMENT, HEAD OF DEPARTMENT'S AND INSTITUTIONAL APPROVAL

PERSETUJUAN PENYELIDIK, PENGESAHAN KETUA JABATAN DAN INSTITUSI

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Unique Research ID : *[Nombor Pendaftaran]*	6675
Research Title : *[Tajuk]*	HEALTH STATUS OF NATIONAL SERVICE TRAINEES IN MALAYSIA
Protocol Number if available *[Nombor Protokol jika ada]*	

Investigator agreement *[Persetujuan penyelidik]*
I have understood the above titled proposed research and I agree to participate in the research as an investigator.
Saya faham cadangan penyelidikan yang bertajuk di atas dan saya bersetuju mengambil bahagian dalam projek tersebut sebagai penyelidik.

Name of Investigator : *[Nama Penyelidik]*	Noor Ani binti Ahmad
IC number : *[Nombor KP]*	680610025160
Site Institution : *[Institusi]*	Institute for Public Health (IPH)
Signature & Official stamp : *[Tandatangan dan Cop*	DR. NOOR ANI BINTI AHMAD [illegible]
Date : *[Tarikh]*	

Head of Department Agreement *[Persetujuan Ketua Jabatan]*
I agree to allow the above named investigator to conduct or to participate in [illegible]
Saya membenarkan pegawai yang bernama di atas untuk menjadi penyelidik dalam projek penyelidikan tersebut di atas.

Name of Head : *[Nama Ketua]*	
Name of Department and Institution *[Jabatan dan Institusi]*	DR. TAHIR BIN ARIS No. Pendaftaran Penuh MPM: 28418 Pengarah Institut Kesihatan Umum Kementerian Kesihatan Malaysia
Signature & Official stamp : *[Tandatangan dan Cop*	
Date : *[Tarikh]*	

Institutional approval *[Pengesahan Institusi]*
This section maybe omitted if one of the NIH institute is authorized to approve on behalf of institution. Refer NIH for
Bahagian ini tidak perlu jika salah satu daripada institusi NIH diberi kuasa pengesahan bagi pihak institusi tersebut. Rujuk NIH untuk maklumat lanjut.
I agree to allow the investigator(s) named above to conduct or to participate in the above titled research. Where applicable, I further agree to allow my institution to be one of the sites participating in the research.
Saya membenarkan pegawai yang bernama di atas menjalankan penyelidikan selaku penyelidik dalam projek penyelidikan tersebut. Jika berkenaan, saya juga membenarkan institusi ini mengambil bahagian dalam projek tersebut.

Name of Director : *[Nama Pengarah]*	
Name of Institution *[Institusi]*	DR. TAHIR BIN ARIS No. Pendaftaran Penuh MPM: 28418 Pengarah Institut Kesihatan Umum Kementerian Kesihatan Malaysia
Signature & Official stamp : *[Tandatangan dan Cop*	
Date : *[Tarikh]*	

Versi 2.0 Tarikh: 15 Feb 2006

INVESTIGATOR'S AGREEMENT, HEAD OF DEPARTMENT'S AND INSTITUTIONAL APPROVAL

PERSETUJUAN PENYELIDIK, PENGESAHAN KETUA JABATAN DAN INSTITUSI

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Dokumen ini adalah untuk penghantaran atas talian (online) mengikut prosedur rasmi semakan dan persetujuan penyelidikan. Borang ini dikeluarkan sebagai gantian dokumen kebenaran manual yang serupa seperti Borang JTP/KKM 1-2 dan Borang JTP/KKM 3. Selepas melengkapkan borang di bawah dan mendapatkan tanda tangan yang diperlukan, sila imbaskan dokumen ini dan hantar atas talian.

Unique Research ID : *[Nombor Pendaftaran]*	6675
Research Title : *[Tajuk]*	HEALTH STATUS OF NATIONAL SERVICE TRAINEES IN MALAYSIA
Protocol Number if available *[Nombor Protokol jika ada]*	

Investigator agreement *[Persetujuan penyelidik]*
I have understood the above titled proposed research and I agree to participate in the research as an investigator.
Saya faham cadangan penyelidikan yang bertajuk di atas dan saya bersetuju mengambil bahagian dalam projek tersebut sebagai penyelidik.

Name of Investigator : *[Nama Penyelidik]*	Norizzati Bukhary bt Ismail Bukhary
IC number : *[Nombor KP]*	681016035256
Site Institution : *[Institusi]*	Poliklinik Komuniti Bandar Baru Bangi
Signature & Official stamp : *[Tandatangan dan Cop*	Dr. Norizzati Bukhary Pakar Perubatan Keluarga KP No: 681016-03-5256 MMC No. 31589 JABATAN PESAKIT LUAR POLIKLINIK KOMUNITI BANGI 43650 BANDAR BARU BANGI
Date : *[Tarikh]*	26/7/10

Head of Department Agreement *[Persetujuan Ketua Jabatan]*
I agree to allow the above named investigator to conduct or to participate in the above titled research.
Saya membenarkan pegawai yang bernama di atas untuk menjadi penyelidik dalam projek penyelidikan tersebut di atas.

Name of Head : *[Nama Ketua]*	
Name of Department and Institution *[Jabatan dan Institusi]*	DR. AHAMAD BIN JUSOH Pakar Perubatan Kesihatan Awam [illegible] 25832 Pegawai Kesihatan Daerah Pejabat Kesihatan Daerah Hulu Langat Selangor
Signature & Official stamp : *[Tandatangan dan Cop*	
Date : *[Tarikh]*	26/7/2010

Institutional approval *[Pengesahan Institusi]*
This section maybe omitted if one of the NIH institute is authorized to approve on behalf of institution. Refer NIH for
[Bahagian ini tidak perlu jika salah satu daripada institusi NIH diberi kuasa pengesahan bagi pihak institusi tersebut. Rujuk NIH untuk maklumat lanjut]
I agree to allow the investigator(s) named above to conduct or to participate in the above titled research. Where applicable, I further agree to allow my institution to be one of the sites participating in the research.
Saya membenarkan pegawai yang bernama di atas menjalankan penyelidikan selaku penyelidik dalam projek penyelidikan tersebut. Jika berkenaan, saya juga membenarkan institusi ini mengambil bahagian dalam projek tersebut.

Name of Director : *[Nama Pengarah]*	
Name of Institution *[Institusi]*	
Signature & Official stamp : *[Tandatangan dan Cop*	
Date : *[Tarikh]*	

[illegible]

INVESTIGATOR'S AGREEMENT, HEAD OF DEPARTMENT'S AND INSTITUTIONAL APPROVAL

PERSETUJUAN PENYELIDIK, PENGESAHAN KETUA JABATAN DAN INSTITUSI

This document is intended [illegible] submission for purpose of formal research review and approval. [illegible] printed document such as Borang JTPKKM 1-2 and Borang JTPKKM 3. After completing the form below and obtaining the required signatures, please scan this document and submit online.

[illegible]

Research Title *(Tajuk Penyelidikan)*	HEALTH STATUS OF NATIONAL SERVICE TRAINEES IN MALAYSIA
Protocol Number if available *(Nombor Protokol jika ada)*	

Investigator agreement *(Persetujuan penyelidik)*

I have understood the above titled proposed research and I agree to participate in the research as an investigator.

[illegible]

Name of Investigator *(Nama Penyelidik)*	DR. NORLIZA AHMAD
IC number *(Nombor K/P)*	671026-02-5044
Institution *(Institusi)*	NATIONAL POPULATION AND FAMILY DEVELOPMENT BOARD
Signature & Official stamp *(Tandatangan dan Cap Rasmi)*	DR. NORLIZA AHMAD Pengarah Bahagian Reproduktif Manusia LPPKN
Date *(Tarikh)*	24/3/90

Head of Department Agreement *(Persetujuan Ketua Jabatan)*

I agree to allow the above named investigator to conduct or to participate in the above titled research.

[illegible]

Name of Head *(Nama Ketua)*	
Name of Department and Institution *(Jabatan dan Institusi)*	
Signature & Official stamp *(Tandatangan dan Cap Rasmi)*	[illegible] ABDUL RAHMAN Ketua Pengarah Lembaga Penduduk dan Pembangunan Keluarga Negara
Date *(Tarikh)*	

Institutional approval *(Pengesahan Institusi)*

[illegible]

I agree to allow the investigator(s) named above to conduct or to participate in the above titled research. [illegible] I further agree to allow my institution to be one of the sites participating in the research.

[illegible]

Name of Director *(Nama pengarah)*	
Name of Institution *(Nama Institusi)*	
Signature & Official stamp *(Tandatangan dan Cap Rasmi)*	
Date *(Tarikh)*	

Versi 2.0 Tarikh: 15 Feb 2008

INVESTIGATOR'S AGREEMENT, HEAD OF DEPARTMENT'S AND INSTITUTIONAL APPROVAL

PERSETUJUAN PENYELIDIK, PENGESAHAN KETUA JABATAN DAN INSTITUSI

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Unique Research ID : *[Nombor Pendaftaran]*	6675
Research Title : *[Tajuk]*	HEALTH STATUS OF NATIONAL SERVICE TRAINEES IN MALAYSIA
Protocol Number if available *[Nombor Protokol jika ada]*	

Investigator agreement ***[Persetujuan penyelidik]***

I have understood the above titled proposed research and I agree to participate in the research as an investigator.
Saya faham cadangan penyelidikan yang bertajuk di atas dan saya bersetuju mengambil bahagian dalam projek tersebut sebagai penyelidik.

Name of Investigator : *[Nama Penyelidik]*	Tahir Aris
IC number : *[Nombor K/P]*	631209015141
Site Institution : *[Institusi]*	Institute for Public Health (IPH)
Signature & Official stamp : *[Tandatangan dan Cop*	DR. TAHIR BIN ARIS No. Pendaftaran Perubh MPM: 29418 Pengarah Institut Kesihatan Umum Kementerian Kesihatan Malaysia
Date : *[Tarikh]*	

Head of Department Agreement ***[Persetujuan Ketua Jabatan]***

I agree to allow the above named investigator to conduct or to participate in the above titled research.
Saya membenarkan pegawai yang bernama di atas untuk menjadi penyelidik dalam projek penyelidikan tersebut di atas.

Name of Head : *[Nama Ketua]*	
Name of Department and Institution *[Jabatan dan Institusi]*	
Signature & Official stamp : *[Tandatangan dan Cop*	DATO' DR. MADKHAIR A. HAMID Timbalan Ketua Pengarah Kesihatan (Penyelidikan dan Sokongan Teknikal) Kementerian Kesihatan Malaysia
Date : *[Tarikh]*	4/2/10

Institutional approval ***[Pengesahan Institusi]***

This section maybe omitted if one of the NIH institute is authorized to approve on behalf of institution. Refer NIH for *[Bahagian ini tidak perlu jika salah satu daripada institusi NIH diberi kuasa pengesahan bagi pihak institusi tersebut. Rujuk NIH untuk maklumat lanjut]*

I agree to allow the investigator(s) named above to conduct or to participate in the above titled research. Where applicable, I further agree to allow my institution to be one of the sites participating in the research.
Saya membenarkan pegawai yang bernama di atas menjalankan penyelidikan selaku penyelidik dalam projek penyelidikan tersebut. Jika berkenaan, saya juga membenarkan institusi ini mengambil bahagian dalam projek tersebut.

Name of Director : *[Nama Pengarah]*	
Name of Institution *[Institusi]*	
Signature & Official stamp : *[Tandatangan dan Cop*	DATO' DR. MADKHAIR A. HAMID Timbalan Ketua Pengarah Kesihatan (Penyelidikan dan Sokongan Teknikal) Kementerian Kesihatan Malaysia
Date : *[Tarikh]*	4/2/10

INVESTIGATOR'S AGREEMENT, HEAD OF DEPARTMENT'S AND INSTITUTIONAL APPROVAL

PERSETUJUAN PENYELIDIK, PENGESAHAN KETUA JABATAN DAN INSTITUSI

Investigator agreement *(Persetujuan penyelidik)*

ISMAHALIL IBHAR
P01216-06-5873
NATIONAL POPULATION AND FAMILY DEVELOPMENT BOARD

ISMAHALIL IBHAR
SEKRETARI PENYELIDIK SOSIAL
Unit Pembangunan Program
Bahagian Pembangunan Keluarga
Lembaga Penduduk dan Pembangunan Keluarga
MALAYSIA
11/8/2010

Head of Department's *(Ketua Jabatan)*

Institutional approval *(Pengesahan Institusi)*

Versi 2.0 Tarikh: 16 Feb 2009

INVESTIGATOR'S AGREEMENT, HEAD OF DEPARTMENT'S AND INSTITUTIONAL APPROVAL

PERSETUJUAN PENYELIDIK, PENGESAHAN KETUA JABATAN DAN INSTITUSI

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Unique Research ID : *[Nombor Pendaftaran]*	6675
Research Title : *[Tajuk]*	HEALTH STATUS OF NATIONAL SERVICE TRAINEES IN MALAYSIA
Protocol Number if available *[Nombor Protokol jika ada]*	

Investigator agreement *[Persetujuan penyelidik]*
I have understood the above titled proposed research and I agree to participate in the research as an investigator.
Saya faham cadangan penyelidikan yang bertajuk di atas dan saya bersetuju mengambil bahagian dalam projek tersebut sebagai penyelidik.

Name of Investigator : *[Nama Penyelidik]*	Nik Rubian Binti Nik Abdul Rashid
IC number : *[Nombor K/P]*	621117035486
Site Institution : *[Institusi]*	Ministry of Health
Signature & Official stamp : *[Tandatangan dan Cop]*	DR. NIK RUBIAN BT. NIK ABDUL RASHID (MO 0778) Ketua Penolong Pengarah (Gred) Bahagian Pembangunan Kesihatan Keluarga Kementerian Kesihatan Malaysia
Date : *[Tarikh]*	21 July 2010

Head of Department Agreement *[Persetujuan Ketua Jabatan]*
I agree to allow the above named investigator to conduct or to participate in the above titled research.
Saya membenarkan pegawai yang bernama di atas untuk menjadi penyelidik dalam projek penyelidikan tersebut di atas.

Name of Head : *[Nama Ketua]*	DR. HJH. [illegible] BT. [illegible] (MO [illegible]) Pengarah Bahagian Pembangunan Kesihatan Keluarga Kementerian Kesihatan Malaysia
Name of Department and Institution *[Jabatan dan Institusi]*	
Signature & Official stamp : *[Tandatangan dan Cop]*	10/8/10
Date : *[Tarikh]*	10/8/10

Institutional approval *[Pengesahan Institusi]*
This section maybe omitted if one of the NIH institute is authorized to approve on behalf of institution. Refer NIH for *Bahagian ini boleh perlu jika salah satu daripada institusi NIH diberi kuasa pengesahan bagi pihak institusi tersebut. Rujuk NIH untuk maklumat lanjut.*
I agree to allow the investigator(s) named above to conduct or to participate in the above titled research. Where applicable, I further agree to allow my institution to be one of the sites participating in the research.
Saya membenarkan pegawai yang bernama di atas menjalankan penyelidikan selaku penyelidik dalam projek penyelidikan tersebut. Jika berkenaan, saya juga membenarkan institusi ini mengambil bahagian dalam projek tersebut.

Name of Director : *[Nama Pengarah]*	
Name of Institution *[Institusi]*	
Signature & Official stamp : *[Tandatangan dan Cop]*	
Date : *[Tarikh]*	

NATIONAL INSTITUTES OF HEALTH APPROVAL FOR CONDUCTING RESEARCH IN THE MINISTRY OF HEALTH MALAYSIA

PENGESAHAN INSTITUSI PENYELIDIKAN NEGARA UNTUK MENJALANKAN PENYELIDIKAN DI KEMENTERIAN KESIHATAN

This is an auto computer - generated document.It is issued by one of the research institute under the National Institutes of Health (NIH). These are the Institute for Medical Research (IMR), Clinical Research Centre (CRC), Institute of Public Health (IPH), Institute for Health Management (IHM), Institute for Health Systems Research (IHSR), and Institute for Health Behavioural Research (IHBR)

Dokumen ini adalah cetakan berkomputer. Borang ini dikeluarkan oleh salah satu institusi dibawah National Institutes of Health (NIH) iaitu Institut Penyelidikan Perubatan (IMR), Pusat Penyelidikan Klinikal (CRC), Institut Kesihatan Umum (IKU), Institut Pengurusan Kesihatan (IPK), Institut Pergurusan Sistem Kesihatan (IPSK), Institut Penyelidikan Tingkahlaku Kesihatan (IPTK)

Unique NMRR Registration ID : [Nombor Pendaftaran]	NMRR-10-1095-6675
Research Title : [Tajuk]	HEALTH STATUS OF NATIONAL SERVICE TRAINEES IN MALAYSIA
Protocol Number if available : [Nombor Protokol jika ada]	

#	**Investigator Name** [Name Penyelidik]	**Institution Name** [Nama Institusi]
1	fuad bin hashim	Institute for Public Health (IPH)
2	Intan Kartika Kamarudin	Institute for Public Health (IPH)
3	Jasvindar Kaur	Institute for Public Health (IPH)
4	Nik Rubiah Binti Nik Abdul Rashid	Ministry of Health
5	Noor Ani binti Ahmad	Institute for Public Health (IPH)
6	NOOR AZLIN BT MUHAMMAD SAPRI	NATIONAL POPULATION AND FAMILY DEVELOPMENT BOARD (NPFDB)
7	Noridah Mohd Saleh	Family Health Development Division, Family Health Section
8	Norizzati Bukhary bt Ismail Bukhary	Poliklinik Komuniti Bandar Baru Bangi
9	Tahir Aris	Institute for Public Health (IPH)

I have reviewed the above titled research, and approve of its design and conduct.

Saya telah menyemak kajian yang bertajuk seperti di atas dan meluluskan rekabentuk dan perlaksanaannya.

Name of Director : *[Nama Pengarah]*	Dr. Tahir Aris
NIH Institute (IMR, CRC, IPH, IHM, IHSR and IHBR) *[Nama Institusi di bawah NIH]*	Institute of Public Health (IPH)
Signature & Official stamp : *[Tandatangan dan Cop Rasmi]*	This is computer generated document, therefore no signature is required.
Date : *[Tarikh]*	03-01-2011

(Note: This is a computer generated document. It may not carry any signature)

SARINGANSTATUS KESIHATAN
(BSSK/R/I/2008)

REMAJA

Utamakan Kesihatan
Sihat Sepanjang Hayat

No. Pendaftaran: ..... *Tarikh: .....*

ANDA ADALAH HARAPAN NEGARA
Lengkapkan diri anda untuk menjadi pelapis generasi akan datang.

BENARKAN KAMI MEMBANTU ANDA:-
Memberikan khidmat nasihat pengurusan risiko kesihatan anda.
Memberikan khidmat promosi, pencegahan, perawatan & rehabilitasi.
Merujuk anda kepada perkhidmatan lanjutan jika diperlukan.

ANDA HANYA PERLU:-
Luangkan masa untuk mengisi borang ini.
Jawab semua soalan dengan jujur.
Tangani risiko kesihatan yang ada pada anda.

Tahniah!
Anda telah mengambil tindakan yang bijak.

Kementerian Kesihatan Malaysia
mengucapkan terima kasih di atas sokongan berterusan anda
demi mewujudkan golongan remaja Malaysia yang sihat dan sejahtera.
Untuk maklumat lanjut, sila layari:
www.myhealth.gov.my.

SEGALA MAKLUMAT ANDA AKAN DIRAHSIAKAN

BSSK/R/I/2008 No. Pendaftaran:-

APPENDIX 9

ms 1

A. BIODATA

1. Nama:

_____

_____

2. Jantina: ☐ Lelaki ☐ Perempuan

3. Tarikh Lahir: H H B B T T T T

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

4. No. K/P / Passport / Sijil Kelahiran:

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

5. Kewarganegaraan:

☐ Warganegara Malaysia ☐ Pemastautin tetap

☐ Warga Asing, nyatakan: .....

6. Bangsa: ☐ Melayu ☐ Cina ☐ India ☐ Bumiputera Sabah

☐ Bumiputera Sarawak ☐ Lain-lain, nyatakan: .....

7. Agama: ☐ Islam ☐ Buddha ☐ Hindu ☐ Kristian

☐ Lain-lain, nyatakan: .....

8. Taraf Pendidikan: ☐ Rendah ☐ Menengah

☐ Pengajian Tinggi ☐ Tiada pendidikan formal

9. Belajar / Bekerja / Tidak Bekerja

☐ **Belajar**

a. Nama Sekolah / Institusi: .....

☐ **Bekerja**

a. Nama Pekerjaan: .....

b. Pendapatan: RM ..... Sebulan

☐ **Tidak bekerja**

Tidak bekerja / menganggur: .....

ms 2

A. BIODATA (Sambungan...)

10. Status Perkahwinan:

- ☐ Bujang
- ☐ Berkahwin, nyatakan bilangan anak: .....
- ☐ Janda / Balu / Duda

11. Alamat Rumah Terkini: .....

.....

.....

12. No. Telefon:

- ☐ Telefon bimbit: .....
- ☐ Telefon rumah: .....
- ☐ Telefon pejabat: .....

13. E-mail: .....

ms 3

B	PERIHAL SEJARAH KESIHATAN							
B1	PERUBATAN / PEMBEDAHAN	Sendiri			Keluarga			*Jika 'Ya' nyatakan pertalian
		Ya	Tidak	Tidak Tahu	Ya*	Tidak	Tidak Tahu	
1	Darah tinggi							
2	Diabetes (kencing manis)							
3	*Asthma* (lelah)							
4	Penyakit Jantung							
5	Kematian mengejut sebelum umur: • 45 tahun bagi lelaki • 50 tahun bagi wanita (kecuali kemalangan)	Tiada Kaitan						
6	Penyakit buah pinggang							
7	Kanser (Jika Ya, nyatakan): ……							
8	Strok (angin ahmar)							
9	Epilepsi (sawan)							
10	Masalah darah (Thalasaemia, Anemia, Hemofilia, Leukemia dll)							
11	Penyakit berjangkit (TB, HIV, Hepatitis, penyakit kelamin, Malaria/Denggi dll)							
12	Merokok / tembakau							
13	Pengambilan alkohol							
14	Pengambilan dadah							
15	Kegemukan / Obes							
16	Masalah kesihatan mental (penyakit mental) (Jika Ya, nyatakan): ….....							
17	Alahan ubat-ubatan / Lain-Lain (Jika Ya, nyatakan): ….....							
18	Sejarah Pembedahan (Jika Ya, nyatakan):							
19	Lain-lain penyakit (Nyatakan):							

ms 4

B	**PERIHAL KESIHATAN SEMASA**			
B2	KESIHATAN ORAL SEMASA		Ya	Tidak
1	Saya mempunyai masalah oral (gigi, gusi dll)?			
C	**SARINGAN FAKTOR RISIKO**			
C1	PEMAKANAN			
1	Saya makan mengikut waktu makan seperti berikut setiap hari?		Ya	Tidak
	a. Sarapan pagi			
	b. Makan tengahari			
	c. Makan malam			
2	Saya makan makanan seperti berikut setiap hari?		Ya	Tidak
	a. Makanan bijirin seperti nasi, mi atau roti			
	b. Buah-buahan			
	c. Sayur-sayuran			
	d. Susu dan hasil tenusu seperti keju, dadih (*yogurt*)			
	e. Daging / ayam / telur / ikan / makanan laut atau kekacang			
3	Jika berada di rumah, saya biasanya makan bersama keluarga pada waktu makan berikut?		Ya	Tidak
	a. Sarapan pagi			
	b. Makan tengahari			
	c. Makan malam			
4	Saya merasakan diri saya kurus, normal atau gemuk?	Kurus	Normal	Gemuk
	Saya ingin:		Ya	Tidak
	a. Mengekalkan berat badan sedia ada			
	b. Menambah berat badan sedia ada			
	c. Mengurangkan berat badan sedia ada			
C2	AKTIVITI FIZIKAL			
1	Saya mengamalkan aktiviti senaman?		Ya	Tidak
	Jika jawapannya **Tidak**, sila terus ke Bahagian C3			
2	Jenis senaman yang saya lakukan adalah? (Cth: berbasikal, berenang, berjalan pantas & lain-lain: Nyatakan: .....)			
3	Tempoh masa setiap kali saya bersenam adalah?	Kurang 30 minit	30 minit & lebih	
4	Kekerapan saya bersenam dalam seminggu adalah?	Kurang 3 kali	3 kali & lebih	
	Nyatakan bilangannya:			

BSSK/R/I/2008 No. Pendaftaran:-

ms 5

C3	SARINGAN KESIHATAN SEKSUAL DAN REPRODUKTIF					
1	**Saya pernah mengalami masalah-masalah berikut:**				**Ya**	**Tidak**
	a. Keluar lelehan bernanah atau berbau busuk dari kemaluan					
	b. Gatal-gatal atau kudis di bahagian kemaluan					
	c. Sakit di bahagian ari-ari atau kemaluan bila membuang air kecil					
	d. Masalah-masalah lain pada bahagian kemaluan, nyatakan:					
	Remaja perempuan sahaja				**Ya**	**Tidak**
	e. Perut semakin membesar / Mengandung					
	f. Tarikh akhir datang haid:					
	g. Keguguran kandungan					
2	**Saya telah mengalami perubahan berikut:**				**Ya**	**Tidak**
	a. Bentuk badan					
	b. Tumbuh bulu pada ketiak dan ari-ari					
	Remaja lelaki sahaja	**Ya**	**Tidak**	**Remaja perempuan sahaja**	**Ya**	**Tidak**
	c. Suara menjadi garau			c. Pembesaran payu dara		
	d. Perubahan saiz kemaluan			d. Tahun mula datang haid:		
3	**Saya pernah melakukan perkara-perkara berikut:**				**Ya**	**Tidak**
	a. Membaca / menonton bahan-bahan lucah					
	b. Melancap / masturbasi (merangsang diri sendiri secara seksual)					
4	**Saya mempunyai:**				**Ya**	**Tidak**
	a. Keinginan seks terhadap kaum (jantina) sejenis?					
	Remaja lelaki sahaja	**Ya**	**Tidak**	**Remaja perempuan sahaja**	**Ya**	**Tidak**
	b. Keinginan untuk menjadi seorang perempuan			b. Keinginan untuk menjadi seorang lelaki		
5	**Saya mempunyai kekasih atau teman wanita istimewa?**			**Saya mempunyai kekasih atau teman lelaki istimewa?**		
6	**Saya pernah melakukan hubungan seks? Jika 'Ya', jawab soalan 7**					
7	**Saya:**				**Ya**	**Tidak**
	a. Bertukar-tukar pasangan					
	b. Melakukan hubungan sejenis					
	c. Melakukan hubungan seks luar tabii					
	Remaja lelaki sahaja	**Ya**	**Tidak**	**Remaja perempuan sahaja**	**Ya**	**Tidak**
	d. Menggunakan sebarang kaedah untuk mencegah kehamilan pasangan saya			d. Menggunakan sebarang kaedah untuk mencegah kehamilan		

ms 6

C4	**PENGGUNAAN BAHAN — *SUBSTANCE***					
1	**Saya mengambil bahan-bahan berikut:**					
		Ya	**Tidak**		**Ya**	**Tidak**
	a. Rokok / Tembakau			c. Dadah		
	b. Alkohol			d. Lain-lain, jika Ya nyatakan:		
C5	**AKTIVITI MERBAHAYA / KECEDERAAN**					
1	**Kerapkali saya terlibat dalam aktiviti berikut:**				**Ya**	**Tidak**
	a. Buli					
	b. Pergaduhan					
	c. Ponteng sekolah					
	d. Merosakkan atau mencacatkan harta awam					
	e. Menunggang motosikal atau memandu kereta secara berbahaya					
	f. Menunggang atau membonceng motosikal tanpa menggunakan topi keledar					
C6	**KESIHATAN MENTAL**					
1	**Jika saya mengalami masalah peribadi saya akan mengadu kepada:**					
		Ya	**Tidak**		**Ya**	**Tidak**
	a. Ibu			e. Guru		
	b. Bapa			f. Kaunselor		
	c. Adik beradik			g. Kekasih		
	d. Kawan			h. Lain-lain nyatakan:		
2	**Saya mampu mengatakan "tak nak" kalau diajak:**					
		Ya	**Tidak**		**Ya**	**Tidak**
	a. Merokok			c. Minum Arak		
	b. Mengambil Dadah / Pil Khayal			d. Menghidu Gam		
3	**Saya merasakan diri saya sebaik orang lain.**					
4	**Saya mempunyai masalah-masalah berikut:**					
	a. Susah hati / murung yang berpanjangan					
	b. Sukar untuk tidur					
	c. Gangguan selera makan					
	d. Tidak berminat untuk melakukan aktivit-aktiviti harian					
	e. Kematian atau kehilangan seseorang dalam hidup anda					
	f. Merasakan diri saya membebankan orang lain					
	g. Rasa hidup tidak bermakna					
	h. Pernah terfikir untuk tidak meneruskan hidup					
	i. Sentiasa resah dan bimbang					

ms 7

5	**Ibu bapa / guru bimbang tentang tingkah laku saya kerana mereka menganggap saya:**					
		Ya	**Tidak**		**Ya**	**Tidak**
	a. Nakal dan degil			e. Cepat marah		
	b. Berkelakuan kurang sopan			f. Penakut		
	c. Berkelakuan ganas			g. Cepat cemas (panik)		
	d. Kerap bergaduh			h. Tidak berkawan atau suka bersendirian		
6	**Di sekolah saya mengalami masalah berikut:**					
		Ya	**Tidak**		**Ya**	**Tidak**
	a. Pembacaan			e. Pertuturan		
	b. Pengiraan			f. Pemahaman		
	c. Penulisan			g. Pencapaian akademik merosot		
	d. Pemerhatian dan tumpuan					

C7	**KEROHANIAN**				
1	a. **Islam:** Biasanya saya sembahyang	Tidak pernah	Kurang 5 waktu setiap hari	5 waktu setiap hari	
	b. **Lain-lain agama:** Saya sembahyang / beribadat setiap hari	Tiada kaitan	Tidak pernah	Jarang-jarang	Kadangkala	Setiap hari
2	Agama penting dalam kehidupan harian saya	Tidak penting	Kurang penting	Penting	Amat penting

C8	**PENDERAAN**					
1	**Saya pernah didera secara:**	**Ya**	**Tidak**		**Ya**	**Tidak**
	a. Emosi			c. Seksual		
	b. Fizikal			d. Dibuli		

D	**UKURAN BIOMETRI / KEPUTUSAN MAKMAL:** ***Diisi oleh anggota kesihatan***				
1	Tekanan Darah	*mmHg*	3	Tinggi	meter
2	Kadar Nadi	/ min	4	Berat	kg

5.1	**Remaja berumur ≤ 19 tahun 0 bulan.***	**Rujuk Carta BMI-untuk-umur, *WHO* (2007)**				**Rujuk Carta Tinggi-untuk-umur, *WHO* (2007)**
	BMI: .....kg/m²	**Susut teruk/ Susut** (< -3SD - < -2SD)	**Berat badan normal** (≥ -2SD - ≤ 1SD)	**Berlebihan berat badan** (> 1SD - ≤ 2SD)	**Obes** (> 2SD)	**Terbantut** (< -2SD)
	Tinggi: .....m					

5.2	**Remaja berumur > 19 tahun.****	**Kurang berat badan** (< 18.5)	**Normal** (18.5 - 24.9)	**Lebih berat badan** (25.0 - 29.9)	**Obesiti Kelas I** (30.0 - 34.9)	**Obesiti Kelas II** (35.0 - 39.9)	**Obesiti Kelas III** (≥ 40.0)
	BMI: .....kg/m²						

6	Tahap *Haemoglobin*: ..... *g/dl*	*(jika perlu)*
7	*Aras Mean Corpuscular Haemoglobin* (MCH) ..... *pg*	*(jika perlu)*

Sumber: *WHO* (2007)* dan *WHO* (1998)**

Study variables

No	Variable	Operational Definiton	Scale of Measurement
1	IC No	Identity card number	Exact number
2	Age	Age of the adolescent as of completed years	Years
3	Sex	Answers provided to specific question in the screening form	Male/female
4	Ethnicity	Ethnic of adolescent	Malay/Chinese/Indian/Bumiputra Sabah/Bumiputra Sarawak/Others
5	Religion	Religion of adolescent	Muslim/Buddhist/Hindu/Christian/ Others
6	Education level	Formal education received by the respondents	No formal/Primary/Secondary/ Tertiary
7	Occupation	Current occupation of the respondents	Student/working/unemployed
8	Marital status	Current marital status of the respondent	Single/married/widowed or widow or divorcee
9	State	Current house address	Name of the state
10	Family connectedness	Had meals with family	Yes/No
11	Body image disorder	Perceived as fat with underweight by BMI	Yes/No
12	Sexually-transmitted infection	Had pustular or smelly discharge	Yes/No
13	Pornographic viewing	Read or view pornographic materials	Yes/No
14	Masturbation	Stimulate him/herself sexually	Yes/No
15	Homosexual tendency	Attracted sexually to similar sex	Yes/No
16	Sexual intercourse	Ever had sexual intercourse	Yes/No
17	Risky sexual	Either, ever had: i. multiple partner ii. homosexual relationship, or iii. never use contraceptive	Yes to either
18	Pregnancy	Had sexual intercourse and abdomen is getting bigger	Yes to both
19	Abortion	Ever had abortion	Yes/No
20	Smoker	Cigarette/tobacco	Yes/No
21	Alcohol consumption	Consumed alcohol	Yes/No
22	Drug abused	Taking drug	Yes/No
23	Bully	Frequently involved in bully	Yes/No
24	Fight	Frequently involved in fight	Yes/No
25	Timid	Parents perceived as timid	Yes/No
26	Panicky	Parents perceived as panicky	Yes/No
27	Loner	Parents perceived as loner	Yes/No
28	Religiosity	Responded positively to either: i. pray (irrespective of frequency) ii. religion is important/very important	Yes to either

No	Variable	Operational Definiton	Scale of Measurement
29	Physical abuse	Ever been abused physically	Yes/No
30	Sexual abuse	Ever been abused sexually	Yes/No
31	Depression	Having 4 out of 7 symptoms listed • Prolonged depressive • Insomnia • Loss of appetite • Loss of interest in usual activities • Felt burden to others • Worthlessness • Suicidal ideation	
32	Anxiety	Always worry	Yes/No
33	Suicidal ideation	Think of ending own life	Yes/No
34	Risk Factors	Factors that either encourage or are associated with one or more behaviours that might lead to a negative health outcome or discourage behaviours that might prevent them	
35	Protective Factors	Factors that discourage one or more behaviours that might lead to negative health outcomes or encourage behaviours that might prevent a negative health outcome.	