

health status of YOUTH IN MALANSEA NMR-10-759-6675

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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.

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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 the 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 nonoverweight 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**.

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,

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

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

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).

Variable	Obese BMI ≥27.5	Not Obese BMI <27.5	p-value*	Crude Odds Ratio (95%Cl)	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 exe	rcise					
Yes	728 (9.7%)	6809 (90.3%)	0.004	1.0 [§]	1.0 [§]	
No	789 (10.7%)	6577 (89.3%)	0.034	1.12 (1.01 –1.25)	1.19 (1.05 – 1.35)	
Family History of Di	abetes					
Yes	412(14.8%)	2369 (85.2%)	0.004	1.77(1.57-2.01)	1.40(1.19-1.65)	
No	970(8.9%)	9891 (91.1%)	<0.001	1.0 [§]	1.0 [§]	
Family History of Hy	pertension					
Yes	617 (13.0%)	4143 (87.0%)	0.004	1.58(1.41-1.77)	1.20(1.04-1.39)	
No	779 (8.6%)	8265 (91.4%)	<0.001	1.0 [§]	1.0 [§]	

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%Cl)	Adjusted Odds Ratio (95%CI) [#]	
Family History of He	eart Disease					
Yes	160 (13.6%)	1019 (86.4%)		1.47(1.23-1.75)	1.04(0.83-1.29)	
No	1178 (9.7%)	11008 (90.3%)	<0.001	1.0 [§]	1.0 [§]	
Family History of Ob	pesity					
Yes	208 (23.8%)	667 (76.2%)		3.11(2.63-3.68)	2.69 (2.22-2.60)	
No	1128 (9.1%)	11247 (90.9%)	<0.001	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)**.

Variable	Premarital Sex	No Premarital Sex	p-value*	Crude Odds Ratio (95%Cl)	Adjusted Odds Ratio (95%CI)*
Age (years)					
20-<25	67 (13.3%)	438 (18.2%)		2.28 (1.75- 2.97)	2.71 (1.96 – 3.75)
18-<20	992 (6.3%)	14,784 (93.7%)	<0.001	1.0 [§]	1.0 [§]
Sex					
Male	780 (9.2%)	7730 (90.8%)		2.71 (2.36 – 3.12)	1.07 (0.88 – 1.31)
Female	279 (3.6%)	7492 (96.4%)	<0.001	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%)		5.44 (4.71 – 6.21)	2.88 (2.42 - 3.44)
No	577 (4.3%)	12995 (95.7%)	<0.001	1.0 [§]	1.0 [§]
Substance Use					
Yes	661 (16.5%)	3354 (83.5%)		5.99 (5.25-6.83)	3.51 (2.91-4.23)
No	378 (3.2%)	78 (3.2%) 11485 (96.8%)		1.0 [§]	1.0 [§]
Anxiety					
Yes	310 (9.5%)	2965 (90.5%)	0.004	1.75 (1.52-2.01)	1.17 (0.96-1.42)
No	702 (5.6%)	11750 (94.4%)	<0.001	1.0 [§]	1.0 [§]
Depression					
Yes	191 (12.6%)	1321 (87.4%)		2.42 (2.04-2.86)	1.04 (0.80-1.36)
No	783 (5.6%)	13092 (94.4%)	<0.001	1.0 [§]	1.0 [§]
Suicidal					
Yes	215 (11.7%)	1627 (88.3%)		2.19 (1.87-2.57)	1.37 (1.07-1.74)
No	790 (5.7%)	13086 (94.3%)	<0.001	1.0 [§]	1.0 [§]
Physical/Sexual Abu	sed				
Yes	187 (16.6%)	940 (83.4%)		3.44 (2.90-4.09)	1.73 (1.39-2.16)
No	785 (5.5%)	13579 (94.5%)	<0.001	1.0 [§]	1.0 [§]
Religiosity					
Yes	726 (5.4%)	12678 (94.6%)		1.0 [§]	1.0 [§]
No	132 (13.3%)	859 (86.7%)	<0.001	2.68 (2.20-3.27)	2.01 (1.57-2.59)
Family Connectedne	SS				
Yes	978 (6.3%)	14547 (93.7%)	0.001	1.0 [§]	1.0 [§]
No	54 (11.2%)	428 (88.8%)	<0.001	1.88 (1.40-2.51)	1.19 (0.82-1.72)

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

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)**.

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	Others 311 (24.6%)		26 (2.1%)	
	P<0.001	P<0.001	P<0.001	

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

Variable	Substance Use	No Substance Use	No Substance Use p-value*		Adjusted OR [#] (95% Cl)
Age (years)					
20-<25	171 (26.9)	464 (73.1)		1.0(0.86-1.22)	1.2 (0.93-1.65)
18-<20	5712 (27.4)	15162 (72.6) ^{0.809}		1.0 [§]	1.0 [§]
Sex					
Male	5404 (46.0)	6356 (54.0)		16.5 (14.91-8.16)	7.8 (6.56-9.20)
Female	479 (4.9)	9270 (95.1)	<0.001	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)		6.32(5.83-6.85)	3.7(3.30-4.21)
No	3573 (20.4)	13930 (79.6)	<0.001	1.0 [§]	1.0 [§]
Sexual-reproductive	problems				
Yes 4131 (44.7)		5118 (55.3)		28.6 (22.20-36.87)	3.8 (2.77-5.23)
No	63 (2.7)	2233 (97.3)	<0.001	1.0 [§]	1.0 [§]
Anxiety					
Yes	1301 (31.0)	2898 (69.0)		1.3 (1.21-1.40)	1.1 (0.93-1.22)
No	4142 (25.7)	12002 (74.3)	<0.001	1.0 [§]	1.0 [§]
Depression					
Yes	739 (37.6)	1224 (62.4)		1.8 (1.62-1.96)	1.5(1.28-1.86)
No	4528 (25.3)	13356 (74.7)	<0.001	1.0 [§]	1.0 [§]
Suicidal					
Yes	765 (32.5)	1587 (67.5)		1.4 (1.26-1.51)	1.0 (0.82-1.18)
No	4661 (25.9)	13320 (74.1)	<0.001	1.0 [§]	1.0 [§]
Physical/sexual abus	sed				
Yes	716 (47.4)	795 (52.6)		2.7 (2.46-3.05)	1.2 (1.03-1.43)
No	4559 (24.7)	13866 (75.3)	<0.001	1.0 [§]	1.0 [§]
Religiosity					
Yes	4420 (25.6)	12828 (74.4)		1.0 [§]	1.0 [§]
No	440 (35.4)	802 (64.6)	<0.001	1.5 (1.41-1.80)	1.3 (1.10-1.64)
Family connectedne	SS				
Yes	5393 (26.7)	14829 (73.3)		1.0 [§]	1.0 [§]
No	268 (43.9)	343 (56.1)	<0.001	2.2 (1.83-2.53)	1.9(1.46-2.50)

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

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%. Antisocial 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)**.

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

	TABLE 6 A	Association	between	antisocial	behaviour	with selecte	d risk	and p	protective	factors
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Note:

: significance at p<0.05 : adjusted for all other variables *

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§ : reference group

Association between history of physical or sexual abuse with selected risk and v. 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)**.

Variable	H/o Abused	No H/o Abused	p-value*	Crude OR (95% Cl)	Adjusted OR [#] (95% Cl)
Age (years)					
20-<25	50 (8.2%)	563 (91.8%)		1.08(0.80-1.45)	0.95 (0.63-1.45)
18-<20	1513 (7.6%)	18364 (92.4%)	0.617	1.0 [§]	1.0 [§]
Sex					
Male	1150 (10.4%)	9885 (89.6%)	0.004	2.55 (2.27-2.87)	1.32 (1.08-1.63)
Female	412 (4.4%)	9042 (95.6%)	< 0.001	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%)	0.004	2.74(2,44-3.05)	1.24 (1.05-1.46)
No	716 (13.6%)	4559 (86.4%)	< 0.001	1.0 [§]	1.0 [§]
Sexual-reproductive	problems				
Yes	80 (3.5%)	2199 (96.5%)	0.004	3.76 (2.98-4.74)	2.08 (1.54-2.83)
No	1065 (12.0%)	7786 (88.0%)	< 0.001	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%)	< 0.001	1.0 [§]	1.0 [§]
Depression					
Yes	361 (19.2%)	1522 (80.8%)	0.004	3.63(3.19-4.13)	1.57 (1.27-1.95)
No	1073 (6.1%)	16417 (93.9%)	< 0.001	1.0 [§]	1.0 [§]
Suicidal					
Yes	386 (17.1%)	1877 (82.9%)	0.004	3.08(2.72-3.49)	1.45 (1.18-1.78)
No	1099 (6.3%)	16452 (93.7%)	< 0.001	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%)	< 0.001	1.0 [§]	1.0 [§]

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% Cl)	Adjusted OR [#] (95% CI)
Religiosity					
Yes	1264 (7.4%)	15863 (92.6%)		1.0 [§]	1.0 [§]
No	121 (9.9%)	1098 (90.1%)	< 0.001	1.38 (1.14-1.68)	1.36 (1.10-1.67)
Family connectednes	55				
Yes	1466 (7.5%)	18066 (92.5%)		1.0 [§]	1.0 [§]
No	66 (11.3%)	517 (88.7%)	< 0.001	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 antisocial 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 psychosocial 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

Yanai 2-8 Yanikh: 13 Fab. 2008

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

PERSETUJUAN PENYELIDIK, PENGESAHAN KETUA JABATAN DAN INSTITUSI

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Investigator agreement /Persetajuan ponyelidik/

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Institution (Autilian)	INSTITUT KESINA DON LONG
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Head of Department Agreement (Persenajoan Ketua Jabatan)

surge to allow the above named investigator to conduct or to participate in the above titled research

Name of Head [Noma Ketua]	DE STIME THE MAS
Name of Department and Institution	DR. TAHIR BIN ARIS
[Johanan dam Instituti]	No. Pendataran Penuh MPSI: 28418
Signature & Official stamp	Institut Kesihatan Umum
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Institutional approval (Pengesahan Institusi)

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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 penyelulikan selaku penyelulik dalam projek arashat penyelulikan mengambil bahagian dalam projek arashat

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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 Pendañaranj	6675
Research Title : [7ajuk]	HEALTH STATUS OF NATIONAL SERVICE TRANEES IN MALAYSIA
Protocol Number if available [Nombor Protokol jika ada]	

Investigator agreement (Persetujuan penyelidik)

I have understood the above tilled proposed research and I agree to participate in the research as an investigator. Seya faham cadangan penyelidikan yang bertajuk di atas dan saya bersehiju mengambil bahagian dalam projek tersebut sebace pervelidik

Name of Investigator : (Name Penyelidik)	Noor Ani bins Ahmad		
C number : Nembor KPj	680610025160		
Site Institution : / Instituti	Institute for Public Health (IPH)		
Signature & Official stamp Tandatangan dan Cop	DR, NOOR ANI BINTI AMATO		
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I agree to allow the above named investigator to conduct or to participate in the state state. Says memberiarkan pegawai yang bernama di atas untuk menjadi penyelidik dalam projek penyelidikan tersebut di atas.

Name of Head : (Nama Ketua)	
Name of Department and Institution (Jabetan dan Institute)	OR. TAHIR BIN ARS No. Pendatarah Penuh MPM: 25418
Signature & Official stamp : [Tandatangan dan Cop	Kementerian Kesihatan Malaysia
Date : [Tankh]	

Institutional approval (Pengesahan Institusi)

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applicable, I further agree to allow my institution to be one of the sites participating in the research.

Saya membenarkan pegawal 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 [Institua]	DR. TAHIR BIN ARIS
Signature & Official stamp : (Tandatangan dan Cop	Penganah Penganah Institut Kesihatan Umum Komenterian Kesihatan Malaysia
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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
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I have understood the above titled proposed research and I agree to participate in the research as an investigator. Sitya feham cadangan penyelidikan yang bertajuk di atas dan saya bersetuju mengambil bahagian dalam projek tersebut nobagal pervelidik

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Head of Department Agreement (Persetujuan Ketua Jabatan)

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Investigator agreement (Persetujuan penyelidik)

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Site Institution : / institute/	Institute for Public Health (IPH) DR TANKR BIN ARIS	
Signature & Official stamp : (Tandatangan dan Cop	No. Pendataran Penuh MPM: 29418 Pengarah Pengarah	
Date : [Tarikh]	Kementerian Kesihatan Malaysia	

Head of Department Agreement (Persetujuan Ketua Jabatan)

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

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Protocol Number If available Nombor Protokol (Na edit)	

investigator agreement (Persetujuan penyalidik)

I have understood the above titled proposed research and i spree to perticipate in the research as an investigator. Soya faham pedangan penyelidikan yang bertajuk di Mas dan saya berseh ju mongambil behagian delam projek tersebut application (application)

Name of Investigator : Name Pervection	Nik Rubian Binti Nik Abdul Rashid	
S. Martin King	62111703466	
Site Institution : (Institut)	Manistry of Health on use status at the status USHD per street	
Signature & Official stamp : (Tandetangen den Cop	-hi - tone function forgard failer	
Oute : (Tarian!	21 2014 2010	

Head of Department Agreement [Persedujuen Ketus Jebelan]

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

Saya memperaman pegawai yang bernama di alas untuk menjedi penyelidik delam projek penyelidikan kvisetur di atas

Name of Head : [Name Kalve]	Die York, Safettall BE, Safette Sale Pibli Pergeniti Beradie: Techacologie Saelieter Network	
Name of Department and institution (Jepatan dari Instituti)	teretere tabai maja	
Signature & Official stamp : Mandatangan dan Cop	120/8/10	
Date : (Tarke)	10/8/10	

Institutional approval (Pengesahan Instituti)

This section maybe omitted if one of the NIH institute is sufferiged to approve an behalf of institution. Refer NH for Rehapien in: solar penu, ike seath data deriveds institute NIV ofben kusse pengedehen begi piher institute tensebut. RCCR NOV uncer maximum anyoff Trapted to allow the investigations) named above to conduct or to perficipate in the above toted research. Where

applicable. I further agree to allow my institution to be one of the sites participating in the research.

Saya membenankan pegawai yang bornumu di otos menjelarikan penyelidiken selaku penyelidik dalam projek penyelidkan tersebut. Jika berkenean, saya juga membenarkan institusi ini mengembil behapan selam priyak tersebut

Name of Director : (Name Pangersh)	
Nany of Institution [Institut]	
Signature & Official stamp :	
(Tandatangen den Cite	
Dele ; [Tarist]	

NATIONAL INSTITUTES OF HEALTH APPROVAL FOR CONDUCTING RESEARCH IN THE MINISTRY OF HEALTH MALAYSIA PENGESAHAN INSTITUSI PENYELIDIKAN NEGARA UNTUK MENJALANKAN PENYELIDIKAN DI KEMENTERIAN KESIHATAN

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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	Institution Name
	[Name Penyelidik]	[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	
		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)

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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)



BSSK/R/1/2008

No. Pendaftaran:-

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:								
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: Lain-lain, nyatakan: Hindu Kristian								
8. Taraf Pendidikan: Rendah Menengah								
Pengajian Tinggi Tiada pendidikan formal								
 9. Belajar / Bekerja / Tidak Bekerja Belajar a. Nama Sekolah / Institusi: 								
Bekerja a. Nama Pekerjaan:								
Tidak bekeria								
Tidak bekerja / menganggur:								

A. BIODATA	(Sambungan)
10. Status Perkah	iwinan:
	Bujang
	Berkahwin, nyatakan bilangan anak:
	Janda / Balu / Duda
11. Alamat Ruma	h Terkini:
12.No. Telefon:	
	Telefon bimbit:
	Telefon rumah:
	Telefon pejabat:
BSSK/R/1/2008	No. Pendaftaran:-

ms 2

В	PERIHAL SEJARAH KESIHATAN							
			Sendiri		Keluarga			*Jika
B1	PERUBAIAN / PEMBEDAHAN	Ya	Tidak	Tidak Tahu	Ya*	Tidak	Tidak Tahu	nyatakan pertalian
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 3

ms	4
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В	B PERIHAL KESIHATAN SEMASA									
B2	KESIHATAN ORAL SEMASA		Ya	Tidak						
1	Saya mempunyai masalah oral (gigi, gusi dll)?									
С	SARINGAN FAKTOR RISIKO									
C1	PEMAKANAN			_						
1	Saya makan mengikut waktu makan seperti berikut se	etiap 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 kekad	cang								
3	Jika berada di rumah, saya biasanya makan bersama waktu makan berikut?	keluarga pada	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: N	yatakan:)						
3	Tempoh masa setiap kali saya bersenam adalah?	Kurang 30 minit	30 minit	& lebih						
			0.1.11							
4	Kekerapan saya bersenam dalam seminggu adalah?	Kurang 3 kali	3 kali a	& lebih						
	riyalalar bilangannya.									

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No. Pendaftaran:-

C3	SARINGAN KESIHATAN SEKSUAL DAN REPRODUKTIF								
1	Saya pernah mengalami mas	Ya	Tidak						
	a. Keluar lelehan bernanah at								
	b. Gatal-gatal atau kudis di ba								
	c. Sakit di bahagian ari-ari ata								
	d. Masalah-masalah lain pada								
	Remaia nerempuan sabaja	Va	Tidak						
	A Perut semakin membesar /	Menas	nduna		Ta	Tuak			
	f Tarikh akhir datang haid:	Menge	indung						
	a Keguguran kandungan								
2	Sava telah mengalami peruha	ahan h	erikut [.]		Ya	Tidak			
-	a Bentuk badan				14	man			
	b Tumbuh bulu pada ketiak d	an ari-a	ari						
	Remaia lelaki sahaja	Ya	Tidak	Remaia perempuan sahaia	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:					Tidak			
	a. Membaca / menonton baha	in-baha	n lucah						
	b. Melancap / masturbasi (me	rangsa	ng diri sen	diri secara seksual)					
4	Saya mempunyai:				Ya	Tidak			
	a. Keinginan seks terhadap ka	aum (ja	ntina) sejei	nis?					
	Remaja lelaki sahaja	Ya	Tidak	Remaja perempuan sahaja	Ya	Tidak			
	b. Keinginan untuk menjadi seorang perempuan			 Keinginan untuk menjadi seorang lelaki 					
5	Saya mempunyai kekasih atau teman wanita istimewa?			Saya mempunyai kekasih atau teman lelaki istimewa?					
6	Saya pernah melakukan hub								
7	Saya:				Ya	Tidak			
	a. Bertukar-tukar pasangan								
	b. Melakukan hubungan sejen								
	c. Melakukan hubungan seks	luar tal	oii						
	Remaja lelaki sahaja	Ya	Tidak	Remaja perempuan sahaja	Ya	Tidak			
	d. Menggunakan sebarang kaedah untuk mencegah kehamilan pasangan sayad. Menggunakan sebarang kaedah untuk mencegah kehamilan								

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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	/ KEC	EDERA	AN	1	1				
1	Kerapkali saya terlibat dalam	aktivit	ti berikut:		Ya	Tidak				
	a. Buli									
	b. Pergaduhan									
	c. Ponteng sekolah									
	d. Merosakkan atau mencacat	tkan ha	rta awam							
	e. Menunggang motosikal atai	u mema	andu kereta	a secara berbahaya						
	f. Menunggang atau membon	ceng m	notosikal ta	npa menggunakan topi keledar						
C6	KESIHATAN MENTAL									
1	Jika saya mengalami masala	h perib	adi saya a	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						
2	Sava mampu mengatakan "ta	k nak"	 ' kalau dia	iak						
		Ya	Tidak		Ya	Tidak				
	a Merokok	14	Huuk	c Minum Arak	14	Huan				
	h Mengambil Dadah / Pil Khaval			d Menghidu Gam						
3	Sava merasakan diri sava se	baik or	ang lain.	a. Monghiad oann						
4	Sava mempunyai masalah-m	asalah	berikut:							
	a. Susah hati / murung vang b	1								
	b. Sukar untuk tidur									
	c. Gangguan selera makan									
	d. Tidak berminat untuk melak									
	e. Kematian atau kehilangan s									
	f. Merasakan diri saya membebankan orang lain									
	g. Rasa hidup tidak bermakna				1					
	h. Pernah terfikir untuk tidak n	nenerus	skan hidup		1					
	i. Sentiasa resah dan bimban	g	1		1					

ms 6

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No. Pendaftaran:-

Ya Tidak Ya Tidak a. Nakal dan degil e. Cepat marah i.i. b. Berkelakuan kurang sopan f. Penakut i.i. c. Berkelakuan ganas g. Cepat cemas (panik) i.i. d. Kerap bergaduh i.i. h. Tidak berkawan atau suka bersendirian i.i. 6 Di sekolah saya mengalami masalah berikut: Ya Tidak Ya Tidak a. Pembacaan e. Pertuturan i.i. i.i i.i	5	Ibu bapa / guru bimbang tentang tingkah laku saya kerana mereka menganggap saya:												
a. Nakal dan degil e. Cepat marah i b. Berkelakuan kurang sopan f. Penakut i c. Berkelakuan ganas g. Cepat cemas (panik) i d. Kerap bergaduh in. Tidak berkawan atau suka bersendirian iiii demakawan atau suka bersendirian 6 Di sekolah saya mengalami masalah berikut: Ya Tidak iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii				Y	′a	Tida	k						Ya	Tidak
b. Berkelakuan kurang sopan f. Penakut Image: sopan		a. Nakal dan de	gil					e. Ce	epat m	arał	I			
c. Berkelakuan ganas g. Cepat cemas (panik) Image: style s		b. Berkelakuan k	kurang sopa	n				f. Pe	enakut					
d. Kerap bergaduh h. Tidak berkawan atau suka bersendirian 6 Di sekolah saya mengalami masalah berikut: 7 Ya Tidak 8 Pembacaan e. Pertuturan 1 a. Pembacaan g. Pencapaian akademik merosot g. Pencapaian akademik merosot 1 a. Islam: Biasanya saya asmbahyang agama: / beribadat setiap hari Tidak pernah Kurang 5 waktu setiap hari 5 waktu setiap hari 2 Agama penting dalam kehidupan harian saya Tidak penting Kurang penting Penting Amat penting 3 Saya pernah didera secara: Ya Tidak C. Seksual u u u 2 Agama penting dalam kehidupan harian saya Tidak penting Kurang penting Penting Amat penting 3 Saya pernah didera secara: Ya Tidak c. Seksual u u u 1 Tekanan Darah mmHg 3 Tinggi meter trak kelan trak kelan trak kelan 2 Kadar Nadi / min 4 Berat kg trak kelan trak kelan trak kelan trak kelan trak kelan trak kelan trak k		c. Berkelakuan g	ganas					g. Cepat cemas (panik)						
6 Di sekolah saya mengalami masalah berjutu Va Tidak Ya Tidak a. Pembacaan i e. Pertuturan i		d. Kerap bergaduh						h. Tio	lak be ka bei	rkav rsen	van atau dirian			
Ya Tidak Ya Tidak a. Pembacaan i e. Pertuturan i b. Pengiraan f. Pemahaman i i c. Penulisan g. Pencapaian akademik merosot g. Pencapaian akademik merosot i d. Pemerhatian dan tumpuan g. Pencapaian akademik merosot g. i 1 a. Islam: Biasanya saya sembahyang Tidak pernah Kurang 5 waktu setiap hari 5 waktu setiap hari b. Lain-lain Saya sembahyang agama: // beribadat setiap hari Tidak penting Kurang penting Penting Amat penting 2 Agama penting dalam kehidupan harian saya Tidak penting Kurang penting Penting Amat penting 1 Saya pernah didera secara: Ya Tidak C. Seksual i i 1 Tekanan Darah mmHg 3 Tinggi meter kg 5.1 Remaja berumur ≤ 19 tahun 0 bulan.* Susut teruk/ Susut Berat badan normal (<2-2SD)	6	Di sekolah sava	mengalam	i mas	alah	berik	ut:			0011	annann			
a. Pembacaan e. Pertuturan i.i. Pemahaman b. Pengiraan f. Pemahaman i.i. c. Penulisan g. Pencapaian akademik merosot d. Pemerhatian dan tumpuan g. Pencapaian akademik merosot 1 a. Islam: Biasanya saya sembahyang agama: / beribadat setiap hari Tidak pernah Kurang 5 waktu setiap hari 5 waktu setiap hari 2 Agama penting dalam kehidupan harian saya Tidak pernah Kurang penting Penting Amat penting 2 Agama penting dalam kehidupan harian saya Tidak penting Kurang penting Penting Amat penting 2 Baya pernah didera secara: Ya Tidak Ya Tidak Ya Tidak 3 Emosi c. Seksual i i i i i 4 Ekanan Darah mmHg 3 Tinggi meter Tinggi-untuk-umur, WHO (2007) Tinggi-untuk-umur, WHO (2007) 5.1 Remaja berumur < 19			j	Υ	′a	Tida	k						Ya	Tidak
b. Pengiraan i. Pemahaman i. Pemahaman c. Penulisan g. Pencapaian akademik merosot d. Pemerhatian dan tumpuan g. Pencapaian akademik merosot 1 a. Islam: Biasanya saya sembahyang agama: / beribadat setiap hari Tidak pernah Kurang 5 waktu setiap hari 5 waktu setiap hari 2 Agama penting dalam kehidupan harian saya Tidak penting Kurang penting Penting Amat penting 3 Saya pernah didera secara: Ya Tidak C. Seksual Image tabular Image tabular 2 Agama penting dalam kehidupan harian saya Tidak penting Kurang penting Penting Amat penting 3 Saya pernah didera secara: Ya Tidak Image tabular Im		a. Pembacaan						e. Pe	ertutura	an				
C. Penulisan g. Pencapaian akademik d. Pemerhatian dan tumpuan merosot C7 KEROHANIAN 1 a. Islam: Biasanya saya sembahyang Tidak pernah Kurang 5 waktu setiap hari 5 waktu setiap hari 2 Agama penting dalam kehidupan harian saya Tidak penting Kurang penting Penting Amat penting 2 Agama penting dalam kehidupan harian saya Tidak penting Kurang penting Penting Amat penting 1 Saya pernah didera secara: Ya Tidak C. Seksual Image Image 1 Saya pernah didera secara: Ya Tidak Ya Tidak 1 Tekanan Darah mmHg 3 Tinggi meter 2 Kadar Nadi / min 4 Berat kg 5.1 Remaja berumur ≤ 19 Susut teruk/ Berat badan berat badan berat badan berat badan (Obesiti Gbesiti		b. Pengiraan						f. Pe	maha	man				
d. Pemerhatian dan tumpuan merosot C7 KEROHANIAN 1 a. Islam: Biasanya saya sembahyang sembahyang Tidak pemah Kurang 5 waktu setiap hari 5 waktu setiap hari b. Lain-lain Saya sembahyang agama: / beribadat setiap hari Tidak pemah Kurang 5 waktu setiap hari 5 waktu setiap hari 2 Agama penting dalam kehidupan harian saya Tidak penting Kurang penting Penting Amat penting 1 Saya pernah didera secara: Ya Tidak C. Seksual a a 1 Saya pernah didera secara: Ya Tidak C. Seksual a b 1 Tekanan Darah mmHg 3 Tinggi meter meter 2 Kadar Nadi / min 4 Berat kg 5.1 Remaja berumur ≤ 19 tahun 0 bulan.* Susut teruk/ Susut teruk/ Susut teruk/ Susut teruk/ Susut teruk/ Susut teruk/ (<-3SD - < <-2SD)		c. Penulisan						g. Pe	encapa	ian	akademi	k		
C7 KEROHANIAN 1 a. Islam: Biasanya saya sembahyang agama: / beribadat setiap hari Tidak pernah Kurang 5 waktu setiap hari 5 waktu setiap hari 2 Agama penting dalam kehidupan harian saya Tidak penting Kurang penting Penting Amat penting 2 Agama penting dalam kehidupan harian saya Tidak penting Kurang penting Penting Amat penting 1 Saya pernah didera secara: Ya Tidak Ya Tidak 1 Saya pernah didera secara: Ya Tidak Ya Tidak a. Emosi c. Seksual 5.1 Remaja berumur ≤ 19 tahun 0 bulan.* Rujuk Carta BMI-untuk-umur, WHO (2007) Rujuk Carta tage untuk umur, WHO (2007) Rujuk Carta tage untuk umur, WHO (2007) Terbantut (<-2SD) <		d. Pemerhatian o	dan tumpua	n				m	erosot					
1 a. Islam: Biasanya saya sembahyang Tidak pernah Kurang 5 waktu setiap hari 5 waktu setiap hari 2 Agama penting dalam kehidupan harian saya Tidak penting Kurang penting Penting Amat penting 2 Agama penting dalam kehidupan harian saya Tidak penting Kurang penting Penting Amat penting 1 Saya pernah didera secara: Ya Tidak Ya Tidak 2 Agama penting dalam kehidupan harian saya Tidak penting Kurang penting Penting Amat penting 1 Saya pernah didera secara: Ya Tidak Ya Tidak a. Emosi c. Seksual d. Dibuli Image: meter Image: meter 2 Kadar Nadi / min 4 Berat kg 5.1 Remaja berumur ≤ 19 tahun 0 bulan.* Susut teruk/ Susut issust (< -3SD - < < 2SD)	C7	KEROHANIA	N											
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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

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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.	