

Semua laporan kemajuan dan laporan akhir yang dikemukakan kepada Bahagian Penyelidikan dan Pembangunan perlu terlebih dahulu disampaikan untuk penelitian dan perakuan Jawatankuasa Penyelidikan di Pusat Pengajian.

USM R&amp;D/JP-04

## LAPORAN AKHIR PROJEK PENYELIDIKAN R&D JANGKA PENDEK

### A. MAKLUMAT AM

- 1) Tajuk Projek: A study of the determinants of smoking behaviour and the association of smoking with lung function of male secondary school students in Kota Bharu.

Tajuk Program: Smoking behaviour and pulmonary functions

Tarikh Mula: 01 Ogos 2001

Nama Penyelidik Utama: Prof Madya Dr Razlan Musa 630927 03 5177  
(berserta No. K/P)

Nama Penyelidik Lain: Profesor (Dr) Rusli Nordin  
(berserta No. K/P) Dr. Lin Naing @ Mohd Ayub Sadiq  
Dr. Muhamad Fadhli bin Mohd Yusoff

### B. PENCAPAIAN PROJEK:

(Sila tandakan [✓] pada kotak yang bersesuaian dan terangkan secara ringkas di dalam ruang di bawah ini. Sekiranya perlu, sila gunakan kertas yang berasingan)

Penemuan asli/peningkatan pengetahuan

Tabiat merokok dikalangan pelajar sekolah terus menjadi masalah disiplin di sekolah. Seramai 34.6% daripada 541 responden adalah perokok semasa manakala 2.3% adalah bekas perokok.

Hasil kajian juga menunjukkan tabiat merokok mempunyai hubungkait dengan ; mempunyai kawan yang merokok, persepsi tentang bahaya merokok,perhubungan pelajar dengan ibu bapa dan pendapat agama tentang tabiat merokok.

Ujian fungsi paru paru menunjukkan keadaan yang di sebalik jangkaan, iaitu perokok semasa mempunyai keupayaan paru paru yang lebih baik berbanding bukan perokok

BAHAGIAN PENYELIDIKAN PUSAT PENGAJIAN SAINS PERUBATAN	
SALINAN :	
<input type="checkbox"/>	Bhg. Penyelidikan, PPSP
<input type="checkbox"/>	Perpustakaan Perubatan, USMKK
<input checked="" type="checkbox"/>	RCMO
T/Tangan : .....: Tarikh : 17.9.03	

**Rekaan atau perkembangan produk baru,**  
(Sila beri penjelasan/makluman agar mudah dikomputerkan)

(1)           Tiada            
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(2) \_\_\_\_\_  
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(3) \_\_\_\_\_  
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**Mengembangkan proses atau teknik baru,**  
(Sila beri penjelasan/makluman agar mudah dikomputerkan)

(1)           Tiada            
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(2) \_\_\_\_\_  
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(3) \_\_\_\_\_  
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**Memperbaiki/meningkatkan produk/proses/teknik yang sedia ada**  
(Sila beri penjelasan/makluman agar mudah dikomputerkan)

(1) Prosedur pemereksaan ujian fungsi paru adalah prosedur standard  
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### C. PEMINDAHAN TEKNOLOGI

Berjaya memindahkan teknologi.

Nama Klien:  
(Nyatakan nama  
penerima pemindahan teknologi  
ini dan sama ada daripada  
pihak swasta ataupun sektor  
awam)

- (1) Tiada
- (2) \_\_\_\_\_
- (3) \_\_\_\_\_

Berpotensi untuk pemindahan teknologi.  
(Nyatakan jenis klien yang mungkin berminat)

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**D. KOMERSIALISASI**

Berjaya dikomersialkan.

- Nama Klien: (1) Tiada
- (2) \_\_\_\_\_
  - (3) \_\_\_\_\_

Berpotensi untuk dikomersialkan.  
(Nyatakan jenis klien yang mungkin berminat)

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**E. PERKHIDMATAN PERUNDINGAN BERBANGKIT DARIPADA PROJEK**

(Klien dan jenis perundingan)

- (1) Tiada

(2) \_\_\_\_\_

(3) \_\_\_\_\_

(4) \_\_\_\_\_

**F. PATEN/SIJIL INOVASI UTILITI**

*(Nyatakan nombor dan tarikh pendaftaran paten. Sekiranya paten/sijil inovasi utiliti telah dipohon tetapi masih belum didaftarkan, sila berikan nombor dan tarikh fail paten).*

(1) Tiada \_\_\_\_\_

(2) \_\_\_\_\_

(3) \_\_\_\_\_

**G. PENERBITAN HASIL DARIPADA PROJEK**

**(i) LAPORAN/KERTAS PERSIDANGAN ATAU SEMINAR**

**(1) Pembentangan kertas**

**1. Di Kolokium Kebangsaan Kesihatan Masyarakat ke IX**

- a. Jenis pembentangan: Lisan
- b. Tajuk: A Study of the Determinants of Smoking Behaviour Among Secondary School Students in Kota Bharu.
- c. Tarikh: 24 September 2002, Grand Blue Wave Hotel, Shah Alam, Selangor.

**2. Semasa aktiviti 'Journal club' di Jabatan Perubatan Masyarakat, PPSP**

- a. 18. 10. 2001
  - i. Jenis pembentangan: Lisan
  - ii. Tajuk: Comparing SAQ and 'Objective Methods' in Assessing Smoking Status
- b. 18. 07. 2002
  - i. Jenis pembentangan: Lisan

ii. Tajuk: The determinants of Smoking Behaviour of  
Secondary School Students in Kota Bharu.

**(ii) PENERBITAN SAINTIFIK**

(1) Penerbitan kertas

1)Dissertasi

Tajuk: A Study of the Associated Factors of Smoking Behaviour and the Association of Smoking With Lung Functions of Secondary School Students in Kota Bharu

(2) Religious and other associated factors of smoking behaviour of male secondary school students in Kota Bharu Kelantan. (completed first draft)

3) Penerbitan lain – dalam perancangan

**H. HUBUNGAN DENGAN PENYELIDIK LAIN**

*(sama ada dengan institusi tempatan ataupun di luar negara)*

(1) \_\_\_\_\_

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(2) \_\_\_\_\_

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**I. SUMBANGAN KEWANGAN DARI PIHAK LUAR**  
(Nyatakan nama agensi dan nilai atau peralatan yang telah diberi)

- (1) Tiada
- (2) \_\_\_\_\_
- (3) \_\_\_\_\_

**J. PELAJAR IJAZAH LANJUTAN**  
(Nyatakan jumlah yang telah dilatih di dalam bidang berkaitan dan sama ada diperingkat sarjana atau Ph.D).

**Nama Pelajar**

**Sarjana**

**Dr Muhammad Fadli Mohd Yusoff**

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\_\_\_\_\_

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**Ph.D**

**K. MAKLUMAT LAIN YANG BERKAITAN**

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9/3/03

**Tarikh**



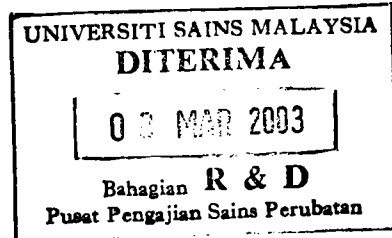
**Tandatangan**

  
**Assoc. Prof. (Dr.) Zabidi Azhar Mohd. Hussin**  
Chairman of Research & Ethics Committee  
**TANDATANGAN PENCEKAM**  
**JAWATANKUASA PENYELIDIKAN**  
**PUSAT PENGANTARAN**  
Universiti Sains Malaysia  
16150 Kubang Kerian  
KELANTAN, MALAYSIA.



# Universiti Sains Malaysia

**Pusat Pengajian Sains Perubatan**  
School of Medical Sciences



09 March, 2003

Pengerusi  
Jawatankuasa Penyelidikan dan Pembangunan (R&D)  
Pusat Pengajian Sains Perubatan  
Universiti Sains Malaysia  
Kampus Kesihatan USM

Ruj. Fail: FPP 2001/103

Tuan,

## Laporan Akhir Projek Penyelidikan USM Jangka Pendek

Merujuk kepada perkara di atas bersama sama ini disertakan perkara – perkara berikut untuk tindakan tuan selanjutnya.

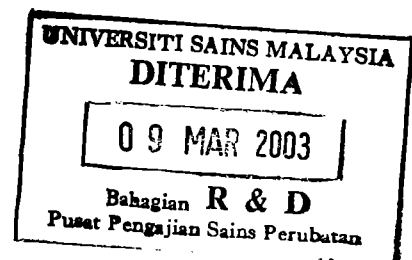
- a) Laporan komprehensif projek – 3 salinan
- b) Laporan Akhir Projek Penyelidikan Jangka Pendek (USM J/P 06) – 3 salinan
- c) Laporan Akhir Projek Penyelidikan R&D Jangka Pendek (USM R&D/ JP-04) – 3 salinan

Sekian terima kaseh.

Yang menjalankan tugas,

Prof. Madya Dr Razlan Musa  
Jabatan Perubatan Masyarakat

## RESEARCH REPORT



**A study of the determinants of smoking behaviour and the association of smoking with lung function of male secondary school students in Kota Bharu.**

Grant Account No: 304/PPSP/6131179

Grant Holder: Profesor Madya Dr Razlan Musa  
Jabatan Perubatan Masyarakat  
Pusat Pengajian Sains Perubatan  
Kampus Kesihatan  
Universiti Sains Malaysia

## INTRODUCTION

Smoking in Malaysia has mostly been a male activity and it is among men that there has been a high prevalence of smoking prevalence. This is true for adult as well as for adolescents, based on the National Health and Morbidity Surveys (NHMS) and several studies conducted in Malaysia (Country Report: Malaysia, 2001). The high overall smoking prevalence in Malaysia has been actually contributed by the prevalence among male population. In the National Health and Morbidity Survey 1996, the smoking prevalence of Malaysian population aged 18 years and above was 24.8 percent. The prevalence among men was 49.2 percent compared to 3.5 percent among women. This was higher than the previous National Health and Morbidity survey conducted in 1986 that found a total smoking prevalence of 21.5 percent, with male smoking rates at 41 percent compared to 4 percent among women (Country Report: Malaysia, 2001). The prevalence can be considered high in both surveys even though they are not comparable due to the differences in population characteristics.

Adolescent smoking continues to be a major problem in schools. A number of studies have been done throughout the world concerning smoking problems among this group of population. In Malaysia, based on the second National Health and Morbidity Survey, smoking prevalence among adolescents aged 12 to 18 years was 30.7% for male and 4.8% for the female (Country Report: Malaysia, 2001). In Kelantan, one of the published data stated that of form four male students the smoking prevalence was 44.2%. However, none of the female students smoked (Naing, *et al.*, 1996). Another study by Naing, *et al.* (1996) on form four and five male students also in Kelantan found that prevalence of smokers was 35.9% of the 451 students surveyed.

Regarding smoking behaviour, it has also been shown that most adult smokers begin to smoke regularly during adolescence (Kent, 1998). Furthermore the early onset of smoking increases the number of cigarette smoked per day in adult life (Taioli & Wynder, 1991) and the more likely they become regular smokers as adult (Escobedo, *et al.*, 1993). Generally, once a person becomes a regular smoker it will be very difficult for him to quit. It has been stated that tobacco is one of the most addictive product known and the majority of people who quit smoking relapse within days. One of the reviews has found that only 2 to 3% of regular cigarettes smokers successfully quit smoking each year, and the addition of nicotine replacement can only triple the result (Henningfield, 1995). In a local study on smoking habit among adolescents by Naing, *et al.* (1996b), 72% of the smokers thought of quitting smoking and of these 83% had tried at least once. It would be therefore preferable to concentrate efforts on smoking prevention and these smoking prevention programmes should be started during childhood or early adolescence.

### **Rationale of this study**

Much of our current knowledge on adolescents smoking comes from other countries especially western countries. There are wide ranges of information available starting from smoking prevalence, the risk groups, the associated risk factors and examples of intervention programmes. There are however, very few published data on these aspects with regards to our local population. In order to develop a good anti smoking campaign and promotion that is suitable for the target group, it is very important to have local information on the problem. One of the most important factors that must be considered is the factors associated with smoking. Numerous studies on this aspect have been done overseas (Escobedo, *et al.*, 1993; Greenlund, *et al.*, 1997; Meijer, *et al.*, 1996; Ogawa, *et al.*, 1988; and Reimers, *et al.*, 1990).

Most of smoking prevention programmes in schools emphasize on the awareness of the health hazards of smoking. Some smoking prevention programmes have been found to be effective (Biener, 2000; and Jason, *et al.*, 1991). However, many studies have shown that the efficacy of smoking programmes is very poor despite the increasing student knowledge about the effects of smoking (Murray, *et al.*, 1994; and Nutbeam, *et al.*, 1993). Further research is therefore necessary to develop more effective smoking prevention programmes which is suitable and more targeted to our local population. The purpose of this study is to determine the factors that are associated with smoking behaviour of secondary school students in Kota Bharu district. There is no published data so far on such study in Kelantan. Hopefully, the outcome of this study will be helpful to the development of an effective smoking prevention programme for Malaysia.

### **Factors and development of smoking behaviour**

The development of smoking may be a gradual process. It can take a considerable time for smokers to acknowledge themselves as such. Studies have shown that various factors may be influential at different times (Greenlund, *et al.*, 1997; and Reimers, *et al.*, 1990).

The process of becoming a smoker has been separated into several stages that reflect the transition from non-smoker to experimental smoker and from experimental smoker to regular smoker as illustrated in a model developed by Flay and colleagues (Bellew & Wayne, 1991). In the 'preparatory' stage, attitudes toward early smoking are formed by influences from friends, family and the media. The second stage is the 'initiation of smoking – the trying of the first cigarette. The third stage is that of proper 'experimentation' where young person actually learns how to smoke – any negative (physical) effects tend to recede and the positive (psychological) experiences

are strengthened during this stage (Belew & Wayne, 1991). Regarding the initiation of smoking, the most frequently cited reasons were 'imitate other's behaviour' and 'to see what it was like' (Zhu, *et al.*, 1996). Meijer, *et al.* (1996) in his study on students aged 11 to 17 years also stated that the most common reason (55%) for starting to smoke was "to try something new".

Tobacco products are readily accessible to adolescents. Studies overseas found that a majority of adolescents responding to a survey reported that it would be easy to obtain cigarettes (Forster, *et al.*, 1992; and Smith, 1991). Forster, Hourigan and McGovern (1992) in their study on the availability of cigarettes to underaged youth also found that the successful rate of buying cigarettes by adolescents aged 12 to 15 years was high. A success rate of 53% over the counter and 79% from vending machines was achieved. In Malaysia, the scenario was in fact worse. Zulkifli and Rogayah (1998) found that the successful rate of purchasing cigarettes among minors in Kota Bharu, Kelantan was more than 97%. This shows that minors have easy access to cigarettes in our population. It has also been shown that most of the smokers obtain their first cigarette from a non-retail or social source, usually a friend (Greenlund, *et al.*, 1997). A study by Wolfson, *et al.* (1997) found that more than two third of adolescent smokers had provided tobacco to another adolescent. This again strengthens the fact that tobacco products are easily accessible to adolescents.

#### **Association with friends who smoke**

Many studies have been done on factors that are associated with smoking behaviour among adolescents or school children (Escobedo, *et al.*, 1993; Greenlund, *et al.*, 1997; Meijer, *et al.*, 1996; Morello, *et al.*, 2001; Ogawa, *et al.*, 1988; and Reimers, *et al.*, 1990). Of the factors examined, association with friends who smoke was consistently associated with adolescent smoking status in most of the study

(Greenlund, *et al.*, 1997; Morello, *et al.*, 2001; Ogawa, *et al.*, 1988; Reimers, *et al.*, 1990; Zhu, *et al.*, 1992; and Zhu, *et al.*, 1996).

Morello, *et al.*, (2001) in their study of tobacco use among high school students in Buenos Aires, Argentina stated that current smokers had reported that more than half of their friends of the same gender smoke. Reimers, *et al.* (1990) have examined the longitudinal influences of several behavioral and social factors on the smoking status. They found that eleven graders who smoked not only had the tendency to associate with other smokers more than non-smokers while they were in 11<sup>th</sup> grade but they also already had this tendency in the three years before when most of them were not smoking. A study by Zhu, *et al.*, (1996) stated that of all variables investigated, variables reflecting peer pressure were among the strongest risk factors for cigarettes smoking of elementary school students in Beijing. Meijer, *et al.* (1996) in his study on cigarettes smoking habits among school children also stated that having a friend who smoked substantially increased the likelihood of smoking.

Several other factors were also related including adolescents' relationship with their parents, level of parental supervision, involvement in extracurricular activities, school performance, attitudes regarding positive and negative effects of smoking (Reimers, *et al.*, 1990)

### **Smoking status of the family members**

Smoking among family members was also found to be significantly associated with adolescents smoking status (Anonymous, 2000; Greenlund, *et al.*, 1997; and Ogawa, *et al.*, 1988). Ogawa, *et al.* (1988) in their study to observe the smoking patterns as well as to examine social and psychological aspects of smoking of junior high schools boys and girls in Japan revealed that smoking status was significantly associated with smoking behaviour among people around the students. With

increasing number of smoker among parents, elder siblings and intimate friends, the percentage of current smoker among students increases. The Bogalusa Heart Study group in their study on cigarette smoking attitudes and first use among third through sixth grade students has also stated that the access to cigarette was greater among those from families where either parent smoked compared to those where neither parent smoked (Greenlund, *et al.* 1997). Similarly, Hesketh, *et al.*, (2001) have also reported that maternal and paternal smoking was among the strongest association with adolescents smoking behaviour.

The effects of parental smoking on adolescent smoking was however inconclusive. There has been inconsistency in the findings between studies from different populations and interestingly, some studies did not show any significant relationship between parental smoking and adolescent smoking. West, *et al.*, (1999) in their study on the family and friends' influences on the uptake of regular smoking from mid adolescent to early adulthood stated that, there was no independent effect of parental smoking on the uptake of cigarettes among adolescents at any period of time when other variables are adjusted. A study by Meijer, *et al.*, (1996) has also shown that there was no relationship between the smoking status of the parents and that of the students.

Regarding the effects of sibling smoking on adolescent smoking status, some studies have shown that the effects are more confined at the early adolescent ages compared to the later ages. West, *et al.*, (1999) in a longitudinal survey of adolescents, starting at the age of 15 and followed-up until 23 years of age reported that the effects of sibling smoking being confined to uptake between 15 and 16. In another cohort study, Swan, *et al.*, (1990) reported that the risk of taking up regular