



WEIGHT GAIN AFTER SMOKING CESSATION AMONG PATIENTS AT KLINIK KESIHATAN HILIRAN

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INTRODUCTION

- Obesity and cigarette smoking are relevant risk factors for public health and been the leading causes of illness and death worldwide. [1,2,4-9]
- Smoking cessation is a concern to many cigarette smokers particularly women as smoking may reduce weight to their perception. This could be a barrier against quitting smoking, increase number of relapse or a risk for health problems among smokers. [1,3,5]
- In Malaysia, smoking prevalence obtained 23.1% from a nationwide survey of the Malaysian adults. [2]

Prevalence of Smoking (1986 – 2011)

Surveys	National (%)	Male (%)	Female (%)
NHMS I (1986)* (≥15 years old, PM only)	21.5	41.0	4.0
NHMS II (1996)** (≥18 years old, Malaysia)	24.8	49.2	3.5
NHMS III (2006)*** (≥18 years old, Malaysia)	21.5	46.4	1.6
GATS (2011)**** (≥15 years old, Malaysia)	23.1	43.9	1.0

Definitions

- * Smoking any form of commercially manufactured or home-made cigarettes (i.e. tobacco rolled into a dried leaf).
- ** One who reported to be smoking at the time of the survey.
- *** Respondent who reported to have smoked 100 or more cigarettes in their lifetime and smoked daily or some days in the past 1 month.
- **** Smoking at least one tobacco product everyday or nearly everyday over a period of a month or more.

Literature Review

- Most of the studies among quitters showed a weight gain of more than 5kg.[1-7]
- In Italy, a study showed the mean absolute of weight gain observed in a population of smokers were, 0.42, 1.43, 3.66 and 4.08 kg at 1week, 1 month, 6 month and 12 months control visit.[1]
- Weight gain after smoking cessation was higher in heavy smokers than in light smokers, was less pronounced at a greater number of years since smoking cessation , and was inversely associated with socioeconomic status [5]

Justification of study

- Most of the journals done based on western populations. By conducting this study we are able to observe the trend of weight gaining among smoking cessation clinic's patients in KKH, Kuala Terengganu.
- Improve the quit smoking rate and reduce other health complication that caused by smoking and weight gain.

Objectives

- **General:**

- To determine the association between weight gain and smoking cessation

- **Specific :**

- To describe the sociodemographic data, clinical parameters and comorbidities of KBM patients
- To identify the percentage of weight gaining from baseline among patient who stop smoking
- To determine the onset of weight gain

Methodology

Study Design	Cross sectional study
Study Period	May 2014- November 2015
Study Design	Retrospective
Sampling method	Universal sampling (All patient registered and complete intervention for 6 months under quit smoking clinic KKH) (n=42)
Data Collection	Patient's medical records(body weight measured from initial visit, post 1, 3 and 6 month of treatment)
Statistical analysis	IBM SPSS statistical version22 Paired T test

Inclusion and exclusion criteria

- **Inclusion :**

- All registered patients who completed 6 months of smoking cessation programme at KKH

- **Exclusion**

- Defaulter client throughout the course of intervention
- Patient on vape

Study variable

- **Sociodemographic**
 - Age
 - Gender
 - Race
 - Educational level
 - Occupation
 - Marital status
- **Clinical parameter**
 - BP
 - Height
 - Weight
 - BMI
 - CO level
 - Duration of smoking
 - Fagestrom score

Definition

- **Weight gain** : any increment in weight since patient start intervention (kg)
- **Stop smoking** : discontinuation of the habit of smoking , inhaling and exhaling of any tobacco product after 6 months intervention at KBM
- **KBM** : Smoking cessation clinic(Khidmat Berhenti Merokok)



Results

Sociodemographic Data

Variable		n (%)
Age	Mean : 45.81 (± 12.30)	
Sex	male	41 (97.6)
	female	1 (3.4)
Race	Malay	39 (92.2)
	Chinese	3 (7.1)
Educational level	Primary	2 (4.8)
	Secondary	29 (69)
	Tertiary	11 (26.9)
Occupation	unemployed	5 (11.9)
	selfemployed	12 (28.6)
	private	9 (21.4)
	government	16 (38.1)
Marital Status	Married	7 (16.7)
	unmarried	35 (83.3)

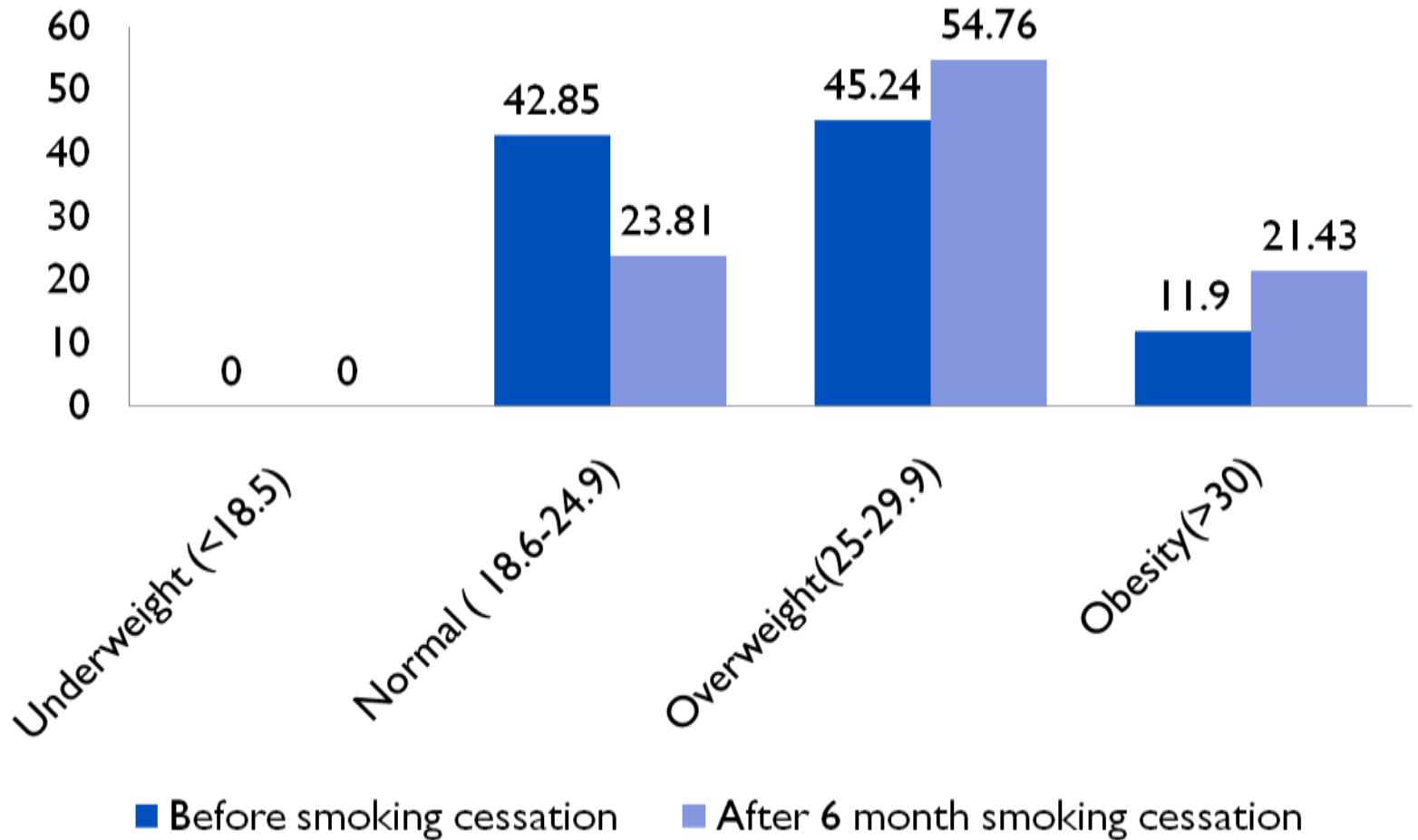
Clinical Parameter

Variable	Mean	SD
Duration of smoking (years)	26	11.37
Height (m)	1.66	0.06
Baseline weight(kg)	70.10	10.64
Fagestrom	2	2
Baseline bmi (kg/m2)	25.59	3.70
Baseline co	4.69	3.27
Systolic(mmhg)	128	14.86
Diastolic(mmhg)	77	10.38

Table 3: Comorbidities Among Patient

Comorbid	%
Hypertension	21.43
Diabetes mellitus	11.90
Asthma/coad	14.29
Heart disease	19.05
Psychosis	2.38
Dyslipidaemia	30.95

Chart I : BMI Categories (%)



% Mean of weight changes

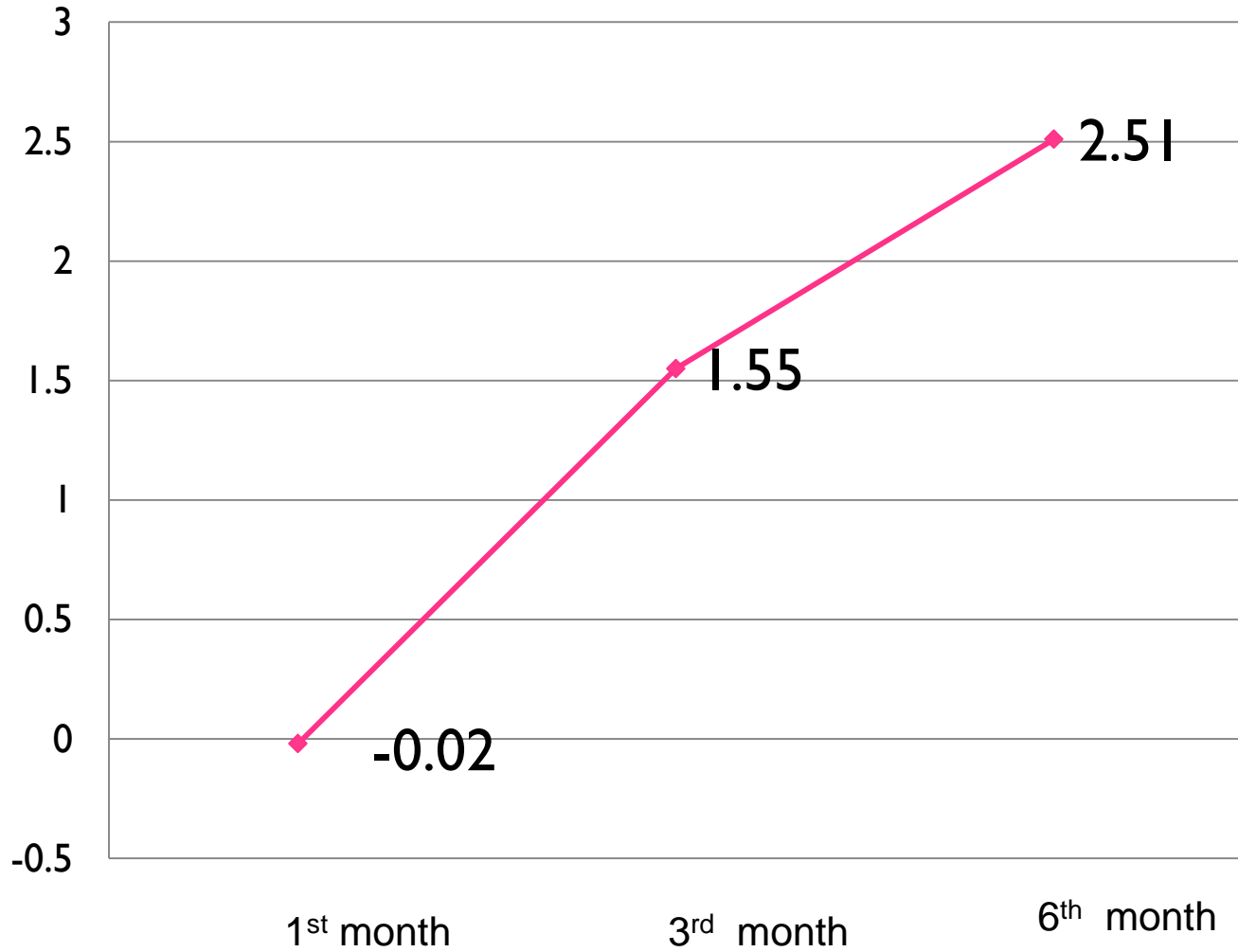


Table 4 : Comparison of mean BMI (kg/m²) of a paired sample (n=42)

Group	Mean	SD	p-value
1 st month	0.05	1.87	0.878
3 rd month	0.99	2.22	0.006
6 th month	1.65	3.01	0.002

Discussion

- Our study shows that weight gaining ranging between 0.05kg to 8.6kg in 6 months of smoking cessation programme. As compared to other studies, showed that weight gain after smoking cessation was ranging between 6.2 to 17kg with a longer duration.[1]
- Study from F. Pistelli shows increase of weight as early as 2 weeks as compared to our study initial weight gaining at 3rd month and more significant at 6th months of quitting[1].
- Our study also shows that number of patient in overweight and obese categories increasing after 6th months by 10%.

Discussion cont...

- Hypertension and dyslipidemia were the highest among patients which proved the higher risk of cardiovascular disease among smokers. [8]
- Our study shows that dyslipidemia is the highest(30.95%) and hypertension(21.43%) among smokers.

Conclusion

This study indicates that smoking cessation lead to weight gain with mean absolute of weight gain was 2.51 after 6 months.

It is necessary to disseminate the public that many benefits are attained by stop smoking, despite the associated weight gain

Patient should be intervene on their weight-concerned to promote smoking cessation by offering both behavioural and pharmacological support.

Recommendation

- Smoking cessation programme should incorporating follow up; regular measurement of body weight with dietary indications and increase physical activity to implement in the intervention of smoking cessation.
- More emphasis should be put on the risk of obesity among smokers to limit their weight gain.
- Further research and development of effective method is therefore desirable.

Limitation

- This study need a longer time period as most of the study done for more then one year and require further intervention to overcome weight gain.

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