



## PREVALENCE AND TO EVALUATE THE EFFECTIVENESS OF ANTI-SMOKING EDUCATION ON SMOKING ILL EFFECTS IN VIEW TO ASSESS BASELINE AWARENESS AMONG SCHOOL CHILDREN.

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### ABSTRACT

**Back ground:** Around 80% of the world's 1.1 billion smokers lives in low and middle income countries [WHO tobacco fact sheet 2018]. A literature review on tobacco usage among school going adolescents in India revealed that prevalence rate was high in male and ranged between 5.2% to 68.3%. This study aims to assess the prevalence and to evaluate the effectiveness of Anti-smoking education on smoking ill effects in view to assess the baseline awareness among school children in Madurai district. **Methods:** The quantitative study was conducted using a one group pre-test post-test design in school children aged between 13 to 15 years in selected schools Madurai District, during 2021-2022. The sampling [ n = 100 ] includes male subjects based on convenience sampling technique. **Results:** Among 100 samples 10[10%] were smokers, 3[3%] samples began smoking before 13yrs of age, 10[10%] samples expressed that they have started smoking due to peer pressure and hard to quit from smoking. In pre-test only 31% samples had adequate knowledge whereas in post-test 84% subjects had adequate knowledge. Paired't test showed that there was a significant difference between pre-test [mean 9.5 ± 0.14] & post-test [ mean 43.4 ± 227.5] & 't' value was 17.3 at p < 0.05 and a significant association found between baseline awareness and variables such as religion x2 [-19.5 ] standard [x2 -15.4] type of family [x2 -47.6], education of father [x2 -23.3], occupation of mother [x2 -323.4] and income of parents [x2 -6] **Conclusion:** The author concluded that the prevalence of smoking was 10% among school children and also unaware about the physical, psychological, academic & economic impact of smoking. Hence they need to be enlightened continuously on ill effects of smoking.

**KEYWORDS :** Prevalence, school children, anti-smoking education, ill effects of smoking.

### INTRODUCTION:

In today's world school children are increasingly exposed to change of life style that cause direct or indirect impact on health. Smoking is a learned behavior during adolescents. Smoking is the major contributing factor for India's burden on non-communicable diseases such as cardiovascular and respiratory disorders. In India, 800, 000 deaths occur due to smoking.

Around 80% the world 1.1 billion smokers lives in low and middle-income countries [WHO tobacco fact sheet 2018]. School children are more attracted on smoking advertisements. Peer Pressure is the important reason for smoking. The first experience of smoking was high among school children than college level students. Majority of the adult smokers initiated the habit of smoking during schooling.

In many developed countries smoking prevalence has been declining, whereas in India the habit of smoking challenges not only to the health but also the social and economic development. The prevalence of smoking was high in male [27.9%] compared to female [2.4%] [Kuang Houc linn et al 2017]. Smoking also causes health related behavioral problems, dental problems and suicidal tendencies.

A systematic literature review was done to assess the tobacco usage among school going adolescents in India, revealed that the prevalence rate was high in male and ranged between 5.2%- 68.3% but in female ranged between 1.6% - 32%. The author insisted and recommended for the targeted and focused teaching on the preventive aspects of smoking [ B. Kumara Raja & Kavitha Devi 2018] A survey was on medical

students Knowledge, attitude and practice of tobacco smoking in Riyadh Saudi Arabia showed that the percentage of ever smokers was higher in boys than girls 37.9% and 22.8% respectively. First experience of smoking was between 4<sup>th</sup> and 6<sup>th</sup> grades, and curiosity was the main motivational factor for first smoking.. After the education more than 90% of students understood the harmful effects of active smoking. [ Ali IAC-haqwi, et al 2010 ] . Adapting a comprehensive approach in schools and community area could help to identify the risk group and develop positive impact on prevention of smoking. Therefore, this study is aimed to identify the prevalence of smoking and to impart the knowledge on ill effects of among school children.

### OBJECTIVES:

- To assess the prevalence of smoking.
- To evaluate the effectiveness of antismoking program on ill effects of smoking.
- Find out the association between demographic variables and baseline awareness
- To find out the correlation between No of smokers and baseline awareness about the impact on academic performance.
- Find out the association between baseline awareness and prevalence of smoking.

### MATERIALS AND METHODS:

A quantitative study with one group pre-test post-test design among school children between 13 to 15 years in selected schools, at Madurai District. The samples never had any awareness program ever before this present study. This design includes participants to assess the prevalence of

smoking and evaluate the effectiveness of antismoking education on ill effects of smoking for a period of six weeks. Samples were selected based on inclusion criteria such as aged between 13- 15 years and studying VII – X std. The tool was developed by the investigator, data was collected using [i] socio demographic variables.[ii] questionnaire on prevalence of smoking [iii] structured questionnaire for base line awareness of smoking.it was found reliable [r=0.9].Written permission was obtained from authorities of two schools, Madurai District. Study guidelines were explained to the participants and informed consent was obtained. To ensure the ethical issues, the participants have the freedom to withdraw from the study at his wish without any reason.

Cronbach's Alpha reliability was used to determine the reliability of the instruments [r = 0.92] and validity of the instrument was done with experts. An anonymous, self-administered survey based questionnaire was used to assess the prevalence. Baseline awareness questionnaire on ill effects of smoking, which includes physical, psychological and academic impact with one correct answer and 4 distracters. A score one was given for correct response and a score of '0' was given for wrong response. The possible highest score was 25 The scores were interpreted as adequate > 76%, moderately adequate 51-75% and inadequate 0- 50% knowledge regarding the impact of smoking on academic performance of school children.

**RESULTS:**

**TABLE 1: Distribution of samples based on this demographical variables. N=100**

DEMOGRAPHIC VARIABLES	f	%
1.Age in years		
13	33	33
14	33	33
15	34	34
2.Religion:		
Christian	6	6
Hindu	68	68
Muslim	26	26
3.Standards		
VIII	18	18
IX	33	33
X	49	49
4.Types of family		
Joint family	29	29
Nuclear family	58	58
Extended family	13	13
5.Number of siblings		
1	58	58
2	20	20
3	22	22
6.Educational status of the father		
Primary	16	16
Middle school	49	49
UG	21	21
PG	14	14
7.Educational status of mother		
Primary	16	16
Middle school	49	49
UG	23	23
PG	12	12
8.Occupation of the father		
Self employed	47	47
Private	36	36
Government	5	5
Unemployment	12	12

9.Occupation of the mother		
Self employed	15	15
Private	9	9
Government	7	7
House wife	69	69
10.Income of the parents		
Rs < 5000	27	27
Rs 5001-10,000	20	20
Rs > 10,001	53	53
11.Hobbies		
Watching TV	13	13
Playing outdoor games	29	29
Playing with mobiles	22	22
Reading books	36	36
12.Place of residence		
Urban	55	55
Rural	45	45

A total of 100 respondents participated in study, highest percentage 34% of samples were belongs to age group of 15 years, 68% were Hindus. Majority of them, 49 %, were studying X standard, and 58% were from Nuclear family and having only one sibling. Nearly 50% of samples parents had middle school education. 47% & 69% participant's fathers & mothers were self -employed & House wife respectively. More than half of the parents, 53%were earning more than Rs.10,001 / month & maximum no of samples 46% were playing with mobile phones as their hobby. The majority of the subjects were residing in urban area.

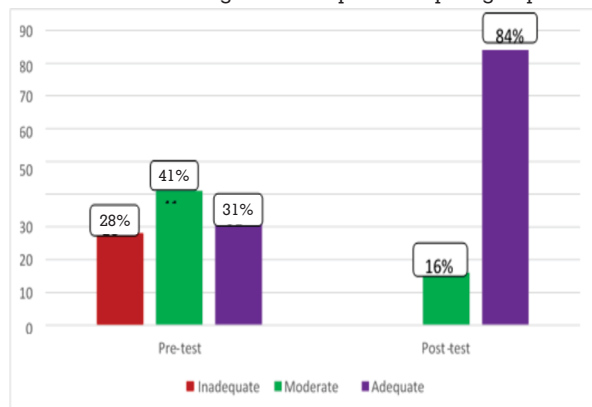
**Table 2: Distribution of samples based on the prevalence of smoking in school children. N=100**

Components	f	%
1.Do you smoke		
Yes	10	10
No	90	90
2. Did you begin the smoke before 13 years of age?		
Yes	3	3
No	97	97
3. Do you feel the urge to smoke right after waking up in the morning?		
Yes	7	7
No	93	93
4. Do you smoke more than 10 cigarettes per day?		
Yes	3	3
No	97	97
5. Do you feel frustrated if you to smoke at the particular time?		
Yes	6	6
No	94	94
6. Whether cigarette smoking make you sick?		
Yes	5	5
No	95	95
7. Do your siblings smoke?		
Yes	8	8
No	92	92
8. Do you smoke due to the compulsion of peer group?		
Yes	7	7
No	93	93

Among 100 respondents, the prevalence of smoking was observed as 10% Out of 10 smokers, the following results were observed:

- 3 started to smoke before 13 yrs of age
- 7 had feeling of urge to smoke soon after waking in the morning.
- 3 were smoking 10 cigarettes / day

- 6 were frustrated if not smoke in a particular time.
- 5 % felt sick due to smoking
- It is hard to quit from smoking for all 10 smokers
- All 10 were smoking due to compulsion of peer group



**Fig 1:** Distribution of samples based on their Baseline Awareness.

Nearly half of the respondents 41% had moderate baseline awareness whereas after the anti-smoking education, baseline awareness was increased to 84%.

**Table 3: Comparison of pre-test and post-test mean score of Baseline Awareness.** [N = 100]

Baseline awareness	Pre-test		Post-test		Mean difference	t value	P-value
	Mean	SD	Mean	SD			
Over all	9.5	0.14	43.4	227.5	34	17.3	P < 0.05

The post-test baseline awareness mean scores [43.4 ± 227.5] are higher than pre-test mean score [9.5 ± 0.14], t value - 17.3 at p < 0.05. Hence, the author concluded that anti-smoking education on ill effects of smoking was highly effective.

**Table 4: Association between baseline awareness and demographic variables** [N = 100]

demographic variables	Inadequate		Moderate		Adequate		χ <sup>2</sup> (df)	p-value (N/NS)
	F	%	F	%	F	%		
1. Religion:							19.5	S*
Christian	24	24	5	5	24	24		
Hindu	10	10	7	7	4	4		
Muslim	15	15	10	10	1	1		
2. Standard VIII	31	31	17	17	4	4	15.4	S*
IX	9	9	21	21	7	7		
X	7	7	4	4	0	0		
3. Types of family							47.6	S*
Joint family	18	18	15	15	2	2		
Nuclear family	27	27	26	26	9	9		
Extended family	3	3	0	0	0	0		
4. Education of father							23.3	S*
Primary	8	8	6	6	11	11		
Middle school	25	25	25	25	2	2		
UG	11	11	9	9	0	0		
PG	1	1	2	2	0	0		
5. Occupation of the mother							323.4	S*
Self employed	12	12	4	4	3	3		

Private	4	4	8	8	3	3		
Government	6	6	10	10	1	1		
House wife	29	29	26	26	3	3		
6. Income of the parents							6	S*
Rs ≤ 5000	15	15	17	17	3	3		
Rs 5001-10,000	14	14	5	5	5	5		
Rs > 10,001	15	15	23	23	3	3		

S\* - Significant 0.05

The results showed that there is a significant association found between baseline awareness and variables such as religion [χ<sup>2</sup> - 19.5 ], standard [χ<sup>2</sup> - 15.4 ], type of family [χ<sup>2</sup> - 47.6], education of father [χ<sup>2</sup> - 23.3], occupation of mother [χ<sup>2</sup> - 323.4] and income of parents [χ<sup>2</sup> - 6]

**Table : 5 Association Between Prevalence And Baseline Awareness On Ill Effects Of Smoking**

Prevalence of smoking	Inadequate		Moderate		Adequate		χ <sup>2</sup>	p-value [N/NS]
	f	%	f	%	f	%		
1. Do you smoke?							160	S*
Yes	3	3	2	2	2	2		
No	67	67	22	22	4	4		
2. Did you begin the smoke before 13 years of age?							26.5	S*
Yes	4	4	3	3	5	5		
No	55	55	24	24	9	9		
3. Do you feel the urge to smoke right after waking up in the morning?							23.3	S*
Yes	1	1	2	2	7	7		
No	72	72	10	10	8	8		
4. Do you smoke more than 10 cigarettes per day?							0	S*
Yes	4	4	2	2	1	1		
No	52	52	31	31	10	10		
5. Do you feel frustrated if you to smoke at the particular time?							2.71	S*
Yes	5	5	5	5	2	2		
No	63	63	16	16	9	9		
6. Whet her cigarette smoking make you sick?							9.2	S*
Yes	7	7	9	9	2	2		
No	59	59	12	12	11	11		
7. Do your siblings smoke?							3.3	S*
Yes	3	3	7	7	3	3		
No	49	49	30	30	8	8		

S\* - Significant 0.05

The results showed that there is an association between

prevalence of smoking and baseline awareness on ill effects of smoking.

**Table 6: Correlation between No of smoking and base line awareness about impact on academic performance**

Variables	p-value	Co-efficient of correlation
No of smokers	P=0.001 S*	r' = 0.9
Baseline awareness about impact on academic performance		

There was a positive correlation between No of smokers and baseline awareness about the impact on academic performance.

**DISCUSSION:**

School plays an important role in molding the student's behavioral pattern. The current strategies mainly concentrate on prevention programs for younger children who are at risk for habitual smoking.

The study has demonstrated the prevalence of smoking is higher in the age group of 15 years [34%] and students studying in x standard [49%]. It was consistent with a report of ministry of health & family welfare said that tobacco use among school children was highest between the age 13-15 years in the states such as Arunachal Pradesh & Mizoram. One fifth of the samples aged between 13-15 years used any form of tobacco products .

It shows that these was significant effectiveness of implementing anti-smoking education on ill effects to increase the awareness among school children [Pre-test mean 9.5±0.14 & post-test mean 43.4±227.5 t = 17.3 p < 0.05] Salim surani et.all 2011 conducted on the effect of Anti-tobacco project video among school children showed that 82% of children answered correctly on the ill effects of smoking. There is a positive correlation found between no of smokers and baseline awareness regarding the academic impact [ r =0.9 ], shows that the samples who smokes know about the ill effects of smoking. Despite the awareness on the ill effects of smoking, school children still engage in smoking. The results showed that there is a association between prevalence of smoking and baseline awareness. This is similar to previous findings where there was a correlation found between no of sticks of cigarette smoke / day and no of time absent from lecture. [ r = 0.99 ] [ kolawole Sunday, Ago fureoforwe & Nwokolo immaculate 2018 ]

**CONCLUSION:**

The investigator concludes & emphasize the role of teachers are most crucial element in creating awareness among school children and parents for shaping the attitude of children towards harmful effects of tobacco use. The researcher also added that the effects of smoking to be incorporated in school curriculum. Moreover, school based intervention will help to control the risk taking behaviors in school children.

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