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## Pattern of Health Promotion on Smokers Active to Stop Smoking Interest

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### ABSTRACT

Smoking is a cause of mortality and morbidity that can be prevented by the healthcare sector in high-income and middle-income countries. Indonesia ranks third in the list of ten countries with the largest population and consumption of cigarettes in the world after China and India in 2008 according to WHO and continues to increase. Health promotion is an effort to improve the ability of the community through learning from, by, for and with the community, so that they can help themselves, and develop community-based activities, in accordance with local social culture and supported by sound public policy. According to Ajzen and Fishbain, interest is a good predictor of smoking behavior in an individual. The theory of planned behavior (TPB) states that interest or intention is the closest determinant of behavior. The purpose of this study is to know the proportion of Sriwijaya University students who are interested to stop smoking, to know and analyze the dominant health promotion factors that influence the interest of active smokers to quit smoking and to determine health promotion pattern in active smokers to quit smoking. This research is an analytic research with cross sectional study design conducted at Sriwijaya University through distribution of questionnaire in November 2017. The sample of this research is active smokers in Sriwijaya University Palembang were taken by purposive sampling technique. The data obtained were analyzed by univariate analysis, chi square test, and multivariate logistic regression using IBM SPSS statistic version 22. This study obtained 392 respondents who match the inclusion criteria of 16 faculties. The results of statistical tests in this study found a significant relationship between students' interest to stop smoking with ever with the pattern of health promotion in the form of seminars and direct counseling mainly due to health factors, smoking frequency, age start smoking, medical personnel notice, doctor advice, family affection, and bad habits, with a value of  $p < 0.05$ . The result of multivariate analysis showed that the most dominant health promotion pattern to play a role in the interest of quitting smoking on active smokers is promotion health health pattern. Each faculty should be able to make health promotion in the form of seminar or direct counseling to the community to get more comprehensive result.

### 1. Introduction

The phenomenon of smoking in the community emerged as an important research area in the last decade, mainly due to the high prevalence of young adulthood. Smoking is the cause of death, disability, and the prevalence of preventable health problems in high- and middle-income countries.<sup>1</sup>

WHO data in 2008 reported Indonesia ranks third

of the ten countries with the largest population and consumption of cigarettes in the world after China and India. The number of smokers in Indonesia is 39.5% (about 72,723,300 people) by 2015, an increase of 3.8% compared to 35.7% in 2010 (about 60,270,600). Riskesdas in 2013 reported the number of female smokers in Indonesia reached 2.1% and



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male smokers at 64.9%. Meanwhile, according to WHO, the number of male smokers in Indonesia in 2015 reached 75.9%, with the number of female smokers by 3.3% 3. Number of smokers aged  $\geq 10$  years in the province of South Sumatra at 24.7% above average the number of smokers aged  $\geq 10$  years in Indonesia is 24.3% .<sup>2,3</sup>

Lawrence Green (1980) developed theory that reveals behavioral factors, particularly those related to health behavior. Green (1980) has developed a model of behavior that is determined and influenced by three factors: predisposing factors, enabling factors, and reinforcing factors.<sup>4</sup>

The Case For More Active Policy Attention to Health Promotion (2017) reports there are public health concerns that have focused on funding and medical financing in the United States at the moment. They focus on conditions that promote the need for preventive therapies through health promotion.<sup>5</sup>

Health promotion is an effort to improve the ability of the community through learning from, by, for and with the community, so that they can help themselves, and develop community-based activities, in accordance with local social culture and supported by sound public policy. Recognizing the complex nature and behavior, it is necessary to implement a comprehensive health promotion strategy that consists of (1) empowerment, supported by (2) atmosphere building and (3) advocacy, and based on the spirit of (4) partnerships.<sup>6</sup>

Ajzen and Fishbain said interest is a good predictor of smoking behavior in an individual. The theory of planned behavior (TPB) states that interest or intention is the closest determinant of behavior. <sup>7</sup>

Sri Sunarti's research, Yayi Suryo and Retna Siwi padmawati (2017) stated to overcome this, many educational institutions that implement KTR. KTR is an area declared prohibited for various matters concerning cigarette use, production activities,

advertising, storage or warehouse, promotion and sponsorship of cigarettes. KTR covers such as health care facilities, social service facilities, teaching and learning facilities, children's playgrounds, places of worship and offices. <sup>8</sup>

Sarah Durkin et al declared in Massmedia campaigns to promote smoking cessation among adults: an integrative review (2017) her research has reinforced evidence that mass media campaigns were conducted with the context of a comprehensive tobacco control program that could promote smoking cessation and reduce the prevalence of smokers, but the range of campaigns, duration and type of messages also affect success. <sup>9</sup>

Looking at the explanation above, that the importance of health promotion to the interest to quit smoking in active smokers so the authors do research for funding medical financing can be suppressed and focused on health promotion.

## 2. Methods

This research is a quantitative analytical research with cross sectional design done at University of Sriwijaya (Unsri) Palembang Campus through the distribution of questionnaire in the form of google form (self-completed questionnaire) in November 2017. Population in this research is active smoker that exist in Unsri Campus Palembang taken by purposive sampling, with a minimum sample size of 384 people. Students' interest to quit smoking as independent variable and predisposing factors, enabling factors, and reinforcing factors as dependent variable. The inclusion criteria of this research are students of academic stage who are registered as active students in Unsri. Exclusion criterion of this research is all samples who are not willing to answer questionnaire. Before the data were collected, validity test and reliability test were conducted on this research questionnaire. After data is collected, the data is presented in the form of



narration and table. The data obtained were analyzed by univariate analysis, chi square test, and multivariate logistic regression using IBM SPSS statistic version 22.

### 3. Results and discussion

The result of data collection is 392 respondents

Table 1. Origin of respondent faculty's

	N	%
Accounting	3	0.8
Economy	81	20.7
Pharmacy	1	0.3
Computer	4	1.3
Faculty of science and politics	8	2.1
Facukty of teacher trainin and education	8	2.0
Law	76	19.4
Informatics	3	0.8
Faculty og medicine	92	23.5
Dentist	2	0.5
Public health	2	0.5
Agriculture	7	1.8
Psychology	1	0.3
Social and political	1	0.3
Engineering	100	25.6
Civil engineering	2	0.6
Total	392	100.0

In table 1. it can be seen that every faculty at Sriwijaya University has its own respondents with different amounts. Most of the respondents came from Engineering Faculty 25.6%, followed by Medical Faculty of 23.5%, and Faculty of Economics 20.7%.

Sociodemographic characteristics of respondents in this study consisted of age, sex, ethnic origin, and years of education.

This study shows that the distribution of sociodemographic characteristics of respondents based on the education year, is the fifth year

from 16 faculties in Unsri. Here are described the number of respondents who came from each faculty in Unsri. The questionnaire created has several intervals on 5 points (Linkert Scale) as: 1; very unaffected, 2: no effect, 3: less influential, 4: influential, 5: very influential.

amounted to 107 (27.3%), followed by the fourth year 100 (25.5%), third year 96 (24.5%), second year 47 (12.0) and the first year 34 8.7%). Respondents with the most age groups were found in the age group of 21-30 years as many as 253 respondents (64.54%), male gender as many as 305 people (77.8%), the origin of the tribe was mostly jawa 89 respondents (22.7% ) with the lowest number of Sunda as many as 25 respondents (6.4%), 218 respondents (50.5%) are not interested in quitting smoking, as many as 174 respondents interested in quitting smoking.



The bivariate analysis aims to find out the correlation between independent variables of **predisposing factors** (Health (P1), Financial (P2), smoking frequency (P3), Age of start smoking (P4)), **enabling factors** (Warning label (P5), drugs for treat smoking (P6), medical personnel (P7), **reinforcing factors** (Religion Regulation (P8) Regulation/ Prohibition (P9), Doctor's suggestion (P10), Family

affection (P11), friend quit smoking (P12) , Family dies (P13), bad habits (P14)) with the dependent variable (Health promotion, seminar and direct counseling).

Factors that have significant relationship with health seminar on community leaders and direct counseling to the community can be seen in table 2.

Table 2. The relationship of predisposing factors, enabling factors, and reinforcing factors to health promotion are seminars on community leaders and direct counseling to the community.

Factors	P value Seminar	P value counseling
P <sub>1</sub>	0,044	0,011
P <sub>2</sub>	0,013	0,207
P <sub>3</sub>	0,019	0,012
P <sub>4</sub>	0,019	0,012
P <sub>5</sub>	0,040	0,055
P <sub>6</sub>	0,243	0,030
P <sub>7</sub>	0,044	0,013
P <sub>8</sub>	0,340	0,006
P <sub>9</sub>	0,021	0,171
P <sub>10</sub>	0,005	0,021
P <sub>11</sub>	0,012	0,004
P <sub>12</sub>	0,129	0,060
P <sub>13</sub>	0,057	0,013
P <sub>14</sub>	0,006	0,014

Table 2.  $p < 0.05$  ( $p < \alpha$ ) shows that there is a correlation between the promotion of health seminar on community leaders with health (P1), financial / financial (P2), smoking frequency (P3), starting age smoking (P4), warning picture / labels (P5), Medical notice (P7), Doctors' suggestion (P10), Family affection (P11), and bad habits (P14). And significant correlation between direct counseling on community

with health (P1), smoking frequency (P3), smoking age (P4), presence of drugs (P6), medical notice (P7), Religion (P8), doctor's advice (P10), Family affection (P11), family death (P13), and bad habits (P14).

Multivariate analysis with logistic regression test on the factors that influence the interest of stop smoking is variable which in bivariate analysis has p value ( $p$  value)  $< 0,05$  and p value ( $p$  value)  $< 0,25$ . The



result is that there is no pattern of health promotion (seminars or direct outreach to the community) which shows significant significance on all the factors that affect the student's interest in quitting smoking with all  $p > 0,05$ .

The result of multivariant analysis also shows that promotion pattern with direct counseling to society is

better than health seminar to public figure in health factor, age start cigarette, existence of medicine that can reduce desire of smoking, medical advice, existence of regulation / ban on smoking, taste dear family, friends quit smoking, and families who died from smoking.

Table 3. Multivariate analysis results logistic regression between predisposing factors, enabling factors, and reinforcing factors to health promotion patterns.

Factors	P value Seminar	P value counseling
P <sub>1</sub>	0,938	0,081
P <sub>2</sub>	0,069	0,985
P <sub>3</sub>	0,150	0,722
P <sub>4</sub>	0,383	0,166
P <sub>5</sub>	0,235	0,492
P <sub>6</sub>	0,418	0,056
P <sub>7</sub>	0,652	0,084
P <sub>9</sub>	0,400	0,259
P <sub>10</sub>	0,067	0,465
P <sub>11</sub>	0,378	0,118
P <sub>12</sub>	0,808	0,154
P <sub>13</sub>	0,887	0,266
P <sub>14</sub>	0,215	0,422

This research stated that there is a relationship between the promotion of seminar and direct counseling on health factors that affect the students' interest to quit smoking 54,9% ( $p = 0,044$ ) and 55% ( $p = 0,011$ ). This is the same as Rizanna Rosemary's research which says seven out of thirty-one students quit smoking due to health reasons.<sup>10</sup>

The student's interest in quitting smoking was also influenced by financial factors related to health promotion pattern in the form of seminar, that is 54,9% ( $p = 0,013$ ), whereas in direct promotion pattern there was no significant correlation (49,5%,  $p = 0,207$ ). Just as Rizanna Rosemary's research says other motivations of quitting smoking are financial

reasons.<sup>10</sup>

The students' interest in quitting smoking was also influenced by the frequency of smoking related to health promotion pattern in the form of seminar, 46.2% ( $p = 0.019$ ), and on promotion pattern of direct counseling there was a significant relationship (45,0%,  $p = 0,012$ ). The relationship of these factors is meaningful but has a smaller value. Similarly, according to Riska Rosita et al, said that their research there is a relationship between smoking frequency factor with the success of quitting smoking on FIK UMS students.<sup>11</sup>

The age of smoking was also associated with the pattern of health promotion of the students' interest in quitting smoking, with 44.0% ( $p = 0.019$ ) and



43.1% ( $p = 0.012$ ). This is in line with the study of people with age ranging from smoking over 15 years of smoking interest with a 20% percentage. while not wanting to quit smoking 12% .<sup>12</sup>

The student's interest in quitting smoking was also influenced by warning images / labels related to health promotion pattern in the form of seminar, which was 44.0% ( $p = 0.04$ ) while direct counseling was not related to the value of 36.7% ( $P = 0.055$ ). This is similar to Natasha's shery research which says there is a relationship of behavior attitude with the intention of quitting smoking equal to 67.2%.<sup>13</sup>

And with the aadanya factor of drugs to stop smoking 38.5% (0.243) which means it does not show the relationship between seminars and drugs. According to the Pharmacological Options for Smoking cessation in heavy drinking smokers does say there are currently 3 recognized drugs such as NRT, Bupropion and Verenicline.<sup>14</sup>

Relationship of the seminar with the advise of 39.6% influential medical personnel ( $p = 0.044$ ). While on direct counseling, the related factors were the presence of drugs (40.4%,  $p = 0.03$ ) and the advice of medical personnel (39.4%,  $p = 0.013$ ). Of the 17 studies Stead conducted, the results showed those who received suggestions as interventions from those who did not receive suggestions had statistically had a higher interest in quitting smoking.<sup>15</sup>

Driving factors, such as religion, deceased families, and friends who quit smoking have no connection with the seminar. In research Rizana also said there is 1 respondent who said that religion factor as interest to stop smoking.<sup>10</sup>

This study shows there is a relationship between the seminar with the rules / restrictions. (48,0%,  $p = 0,021$ ), whereas in direct counseling (44,0%,  $p = 0,171$ ) there is no correlation between direct extension to society with the existence of prohibition regulation. In SAPALDIA study in Switzerland there is a decrease in smoking prevalence possibly related

to starting in the implementation of smoking quit ban in swiss.<sup>16</sup>

Other boosting factors such as physician advice (48.4%,  $p = 0.005$  and 45.0%,  $p = 0.021$ ), family affection (48%,  $p = 0.012$  and 65.1%,  $p = 0.004$ ), and bad habits (50,5%,  $p = 0,006$  and 39,4%,  $p = 0,014$ ) have relationship with seminar and counseling. In Stead LF research is indeed the advantage of short messages to patients from a doctor. While research by Edgar Yu BS et al says involving family members in smoking quit interventions produces promising results. Similarly, Abdulmohsen Hamdan al-Zalabani's research with the support of homes and schools has a greater interest in smoking than those who do not want to quit smoking. (79.1 and 63.2%) da (56.8 and 46.0%). This shows how important the role of peer pressure and the public view of smokers and their effect on motivation for smoking.<sup>12,15,17</sup>

Factor friends who quit smoking is not related to seminars or counseling. From Role research family members in a family focused smoking cessation intervention for Asian Americans. said Involving family members in quitting smoking interventions yielded promising results.<sup>17</sup>

#### 4. Conclusion

The most dominant pattern of health promotion contributing to the interest of smoking cessation in active smokers is the promotion of health promotion.

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