

Correlation between Willing to Smoking Cessation and Treatment Outcome of Health Care Workers in Thailand[†]

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Objective: Evaluate relationship between motivation and success rate to quit smoking in 59 health care workers.

Material and Method: Prospective study of 59 chest disease institute health care workers were assessed for motivation and enrolled into a program to quit smoking. Comprehensive counseling in combinations with a 3-months intake of drug "varenicline" was used to help quit smoking. One-year follow-up was performed.

Results: Fifty-two percent of volunteers had a quit ladder questionnaire result of more than or equal to 8 (set quit date). There was significant correlation between willing patients who are motivated (quit ladder questionnaire more than or equal to 8) and success rate of smoking cessation in two weeks after treatment ($p = 0.010$, RR 2.323, 95% confidence interval 1.144-4.714). Success rate of smoking cessation after start of treatment was as high as 47.5% and sustained to 40.7% in one year.

Conclusion: There was correlation between willingness and success in quitting. Varenicline help patients quit smoking.

Keywords: Varenicline, Willing score to smoking cessation

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Smoking free hospital is a goal program for all hospitals in Thailand. The present study was established to help health-care workers for smoking cessation and determined correlation between willing to quit smoking and outcome of health care worker in Chest disease institute, Thailand. New drug of smoking cessation "varenicline" is better than the others to improved quit rate, from 18.4% Bupropion, nicotine patch 9.8%, and self quit 5.6%⁽¹⁾ to 49% in varenicline⁽²⁾. Varenicline is a Selective $\alpha 4\beta 2$ Nicotinic Receptor Partial Agonist. It's better than other drugs in decreasing nicotine withdrawal symptoms. Comprehensive counseling combination with varenicline were used to help quit in the present study.

Material and Method

A prospective study of 59 current smokers were enrolled in this study on October 2008. All of them were health care workers. The study was

performed between Oct 2008- Nov 2009. Inform consents were done in all volunteers by under Ethic Committee of chest disease institute. Exclusion criteria were pregnancy and psychological problem. Assessment of motivation by Ready to quit ladder questionnaire⁽³⁾ was performed before started treatment. All of them received comprehensive counseling to stop smoking^(4,5) in every visit and medication of varenicline for 3 months. Dose of varenicline is under drug protocol, 0.25 mg OD in day 1-3, 0.25 mg bid in day 4-7 and 0.5 mg bid in day 8-90. Quit time was suggested within 2 weeks of varenicline. Follow-up was done at 2, 6, 12, 24, 36, and 52 weeks after start treatment.

Statistical analysis

All case record files were evaluated and analyzed using SPSS program. The data were presented as descriptive analysis. Chi-square test was used in determine correlation between willing and success quit smoking.

Results

Mean age of 59 chest diseases institute-health care workers was 38 years (17-59 years). 55 of them

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were male (93.2%). Mean cigarette smoking was 9.79 pack-years (range 1-45 pack-years). Duration of smoking was 2-40 years (mean 16 years). There were 8 volunteers stopped to take varenicline at started or within 2 weeks as shown in Fig. 1. 52.6 percent of volunteers had quit ladder questionnaire more than or equal to 8 as shown in Table 1.

Success rate of quit smoking in 51 volunteers at 2,6,12 weeks excluded 8 volunteers stopped varenicline at start and within 2 weeks after treatment were 49.0, 49.0, 47.1% and increased to 54.9, 51, 47.1% at 24, 36, 52 weeks after treatment as shown as Fig. 2 and 3. Most commons of adverse effects of varenicline were nausea (54%), dry mouth (50%), and dizziness (42%). The Other were shown in Table 2.

There was significant correlation between willing patients who have motivation (quit ladder questionnaire more than or equal to 8) and success rate of smoking cessation in 2 week after treatment ($p = 0.010$, RR 2.323, 95% confidence interval 1.144-4.714) but no correlation between willing and smoking cessation in 12 week after treatment ($p = 0.297$).

Discussion

There was correlation between willing to smoking cessation (Will to quit smoking more than or equal to 8 was having quit smoking and will never smoke again, having quit smoking but still worry about slipping back and setting quit date) and treatment outcome in Chest disease institute health care worker

Table 1. Ready to quit ladder questionnaire outcome

Level	Questionnaire	Outcome (person)	Percent
10	I have quit smoking and will never smoke again	3	5.1
9	I have quit smoking but still worry about slipping back so I need to keep working on living smoke free	7	11.9
8	I still smoke but I have begun to change, like cutting back on the number of cigarettes. I smoke. I am ready to set quit date	21	35.6
7	I definitely plan to quit smoking within next 30 days	1	1.7
6	I definitely plan to quit smoking within 6 months	0	0
5	I often think about quitting smoking and I have no plans to quit	15	25.4
4	I sometimes think about quitting smoking and I have no plans to quit	12	20.3
3	I rarely think about quitting smoking and I have no plans to quit	0	0
2	I never think about quitting smoking and I have no plans to quit	0	0
1	I enjoyed smoking and decided not to quit smoking for my lifetime. I have no interest in quit smoke	0	0

Table 2. Adverse event after treatment with varenicline in 50 volunteers

Adverse event	Number of adverse event (percent)	Number of discontinuation due to adverse event (percent)
Dizziness	21 (42)	1 (2)
Decreased appetite	6 (12)	-
Abdominal pain	5 (10)	-
Insomnia	20 (40)	-
Constipation	5 (10)	-
Dry mouth	25 (50)	-
Flatulence	5 (10)	-
Gingivitis	2 (4)	-
Headache	6 (12)	-
Dyspepsia	4 (8.2)	-
Nausea	30 (54)	5 (10)
Rash	2 (4)	-
Abnormal dream	10 (20)	-

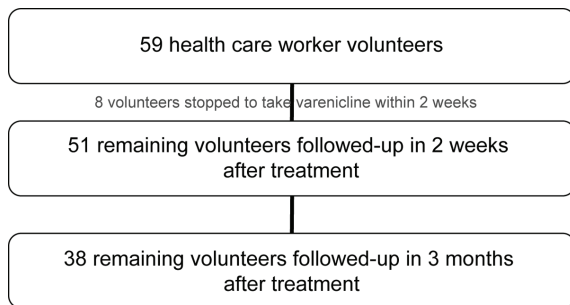


Fig. 1 Volunteer chart

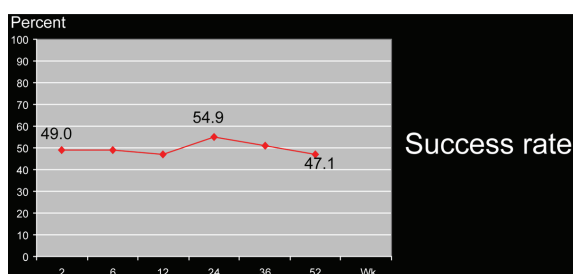


Fig. 2 Success rate of smoking cessation (%) in 51 remaining volunteers

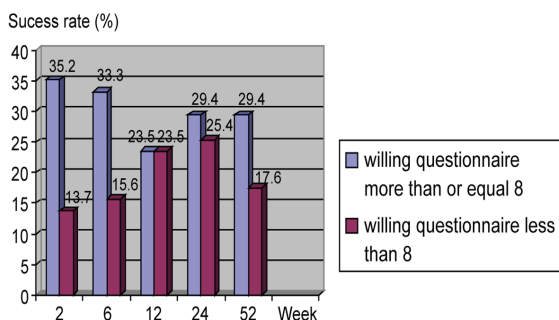


Fig. 3 Compare success rate of smoking cessation and willing to smoking cessation in 51 remaining volunteers

in 2 weeks but not sustained correlation in long term. Setting quit date was suggested at 2 weeks after taking varenicline under schedule protocol. Date time within 2 weeks was easy to induce volunteer to concentrate to quit. The authors thought that no correlation in other situations because volunteers were bored to concentrate to quit after 2 weeks of treatment. Having quit smoking and will never smoke again, having quit smoking but still worry about slipping back and setting quit rate may be better to quit 2.32 folds than plan to quit within 30 days, 6 months or other bad situations.

Benefit of varenicline in the present study was similar to previous study. Use combination between counseling and new drug “Varenicline” were helped quit smoking about 54.9% compared to the previous study (49.5-55%)^(1,2). Success rate of smoking cessation in the present study was not included volunteer who stopped varenicline at started or within 2 weeks after treatment. The authors assumed that volunteers who loss follows-up were failure to treatment. Success rate excluded 8 volunteers stopped varenicline at start and within 2 weeks after treatment decreased in first 3 months (from 49.0% to 47.1%) because some volunteers bored to take medication long time (twice a day for three months), forgot to take medicine and continued to smoke. Success rate was increased in after first 3 month (54.9%) than before 3 months (47.1%). Some volunteers forgot to take medication along schedule and still took remaining drugs after 3 months. Success rate improved when they completely took varenicline. The authors thought that benefit was best when the authors used long time treatment.

Adverse reaction of varenicline is slightly higher than previous study (vomiting 64% compared to 52% in previous study⁽²⁾). Most of adverse reactions were mild. Only 6 volunteers, 12% of all could not tolerated until discontinuation, compared to previous study, 3.9%⁽²⁾.

Success rate of smoking cessation was 54.9% and still sustained to 47.1% in one year after started treatment. It’s better than previous study, decrease to 14.4% in one year after started treatment⁽²⁾

Conclusion

There was correlation between willing and succession to quit. Varenicline is better to help quit smoking.

Potential conflict of interest

None.

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ความสัมพันธ์ระหว่างความตั้งใจและความสำเร็จในการอดบุหรี่ของบุคลากรทางการแพทย์

เปี่ยมมลาภ แสงสายัณห์, กิตติมา บำงพัฒนาศิริ, กัลยา รุจิรอุจนะ

วัตถุประสงค์: เพื่อหาความสัมพันธ์ระหว่างความตั้งใจและความสำเร็จในการการอดบุหรี่

วัสดุและวิธีการ: ศึกษาไปข้างหน้า ในกลุ่มบุคลากรของสถาบันโรคทรวงอกที่ยังสูบบุหรี่จำนวน 59 ราย ในระหว่างตุลาคม พ.ศ. 2551-กันยายน พ.ศ. 2552 โดยบุคลากรทุกคนต้องให้คำยินยอมก่อนการศึกษาบุคลากรทั้ง 59 รายได้รับการประเมินความตั้งใจในการอดบุหรี่โดยอาศัยแบบสอบถาม และได้รับคำแนะนำในการอดบุหรี่ยุติร่วมกับได้รับยา varenicline ทุกายเป็นระยะเวลา 3 เดือน และติดตามการรักษาทั้งหมด 12 เดือน

ผลการศึกษา: อาสาสมัครที่มีความตั้งใจมากกว่าหรือเท่ากับระดับ 8 (กำหนดวันหยุดบุหรี่) มีจำนวน 52.6% พบความสัมพันธ์ระหว่างความตั้งใจในการอดบุหรี่ และความสำเร็จในการอดบุหรี่ในช่วง 2 สัปดาห์หลังกินยาอย่างมีนัยสำคัญทางสถิติ ($p = 0.010$, RR 2.323, 95% confidence interval 1.144-4.714) ความสำเร็จในการอดบุหรี่หลังจากใช้ยา varenicline พบถึง 47.5% และคงที่อยู่ 40.7% หลังเริ่มการรักษาครบ 1 ปี

สรุป: มีความสัมพันธ์ระหว่างความตั้งใจในการอดบุหรี่ระดับ 8 คือ กำหนดวันหยุดบุหรี่ และความสำเร็จในการอดบุหรี่หลังใช้ยา 2 สัปดาห์ อาจเป็นจากวิธีการใช้ยา varenicline นั้นกำหนดให้ช้อย ๆ ลดปริมาณบุหรี่ลงและหยุดให้ได้ใน 2 สัปดาห์ทำให้เหมือนเป็นการกำหนดวันหยุดบุหรี่