

Supply and demand factors influencing adherence to tobacco use treatment guidelines among health care providers working in community health centers in Vietnam

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BACKGROUND

- Nearly half of adult men in Vietnam are current smokers, making Vietnam the second highest among Southeast Asian countries in terms of both the total number of smokers and the proportion smoking rate.
- The US Public Health Service Guideline on Treating Tobacco Use and Dependence (TUTG) has been found to be evidence-based and highly cost-effective but its recommended treatments are underused by smokers and health providers.
- We are conducting a NIH-funded randomized controlled trial comparing two system-level strategies for implementing TUTG (i.e., clinical reminder system, training and technical assistance (RTT) vs. RTT plus system for referring patient to a village health worker for counseling) in commune health centers (CHCs) in Vietnam.
- The purpose of this study was to examine the supply-and-demand factors associated with adherence to tobacco use treatment guidelines (TUTG) of health providers.



METHODS

- The presentation used endline (after 12-month intervention) survey data with 24 health providers at 8 community health centers (CHCs) and 396 current smokers.
- We examined adherence to TUTG after the intervention among health providers by conducting patient exit interviews (PEIs). The PEIs were conducted immediately after the smokers had completed a primary care visit at the CHC. The interviews assessed if patients were asked about tobacco use, advised to quit, assessed for readiness to quit, and offered assistance (brief counseling) to quit smoking. Data from surveys with health providers were merged with data from PEIs by matching health providers and PEIs at the same CHCs.
- Bivariate analyses and multivariate logistic regressions were conducted to assess relationships between patient characteristics (demand factors), health provider characteristics (supply factors) and provider TUT practice patterns. All tests of statistical significance were two-tailed, and $p < 0.05$ was considered significant.

CONCLUSION

- Our study provides evidence that both demand and supply factors affect the adherence to TUTG of health providers in CHCs. Dual user, higher education levels of patients, patients who had quit attempts in the last 12 months, age of health providers, and physician status were important factors that are positively associated with health providers' adherence to TUTG.
- Improvement of these supply and demand factors could markedly increase health providers' adherence to TUTG in Vietnam.

ACKNOWLEDGEMENTS

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FINDINGS

Figure 1: shows medium to high levels of health provider's adherence to each of the tobacco use treatment guidelines.

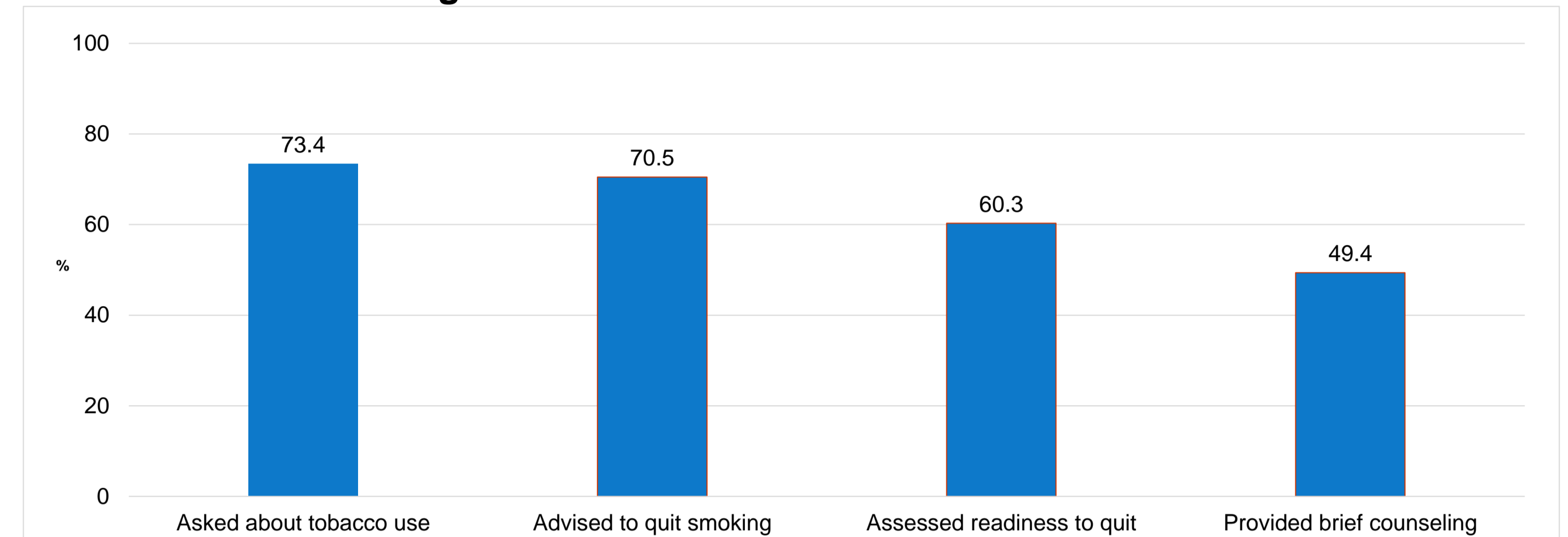


Figure 2: shows higher rates of health provider's adherence to each of TUTG was associated with patients who were dual use of cigarettes and waterpipe, patients' older age, and patients who had attempted to quit in the last 12 months (demand factors)

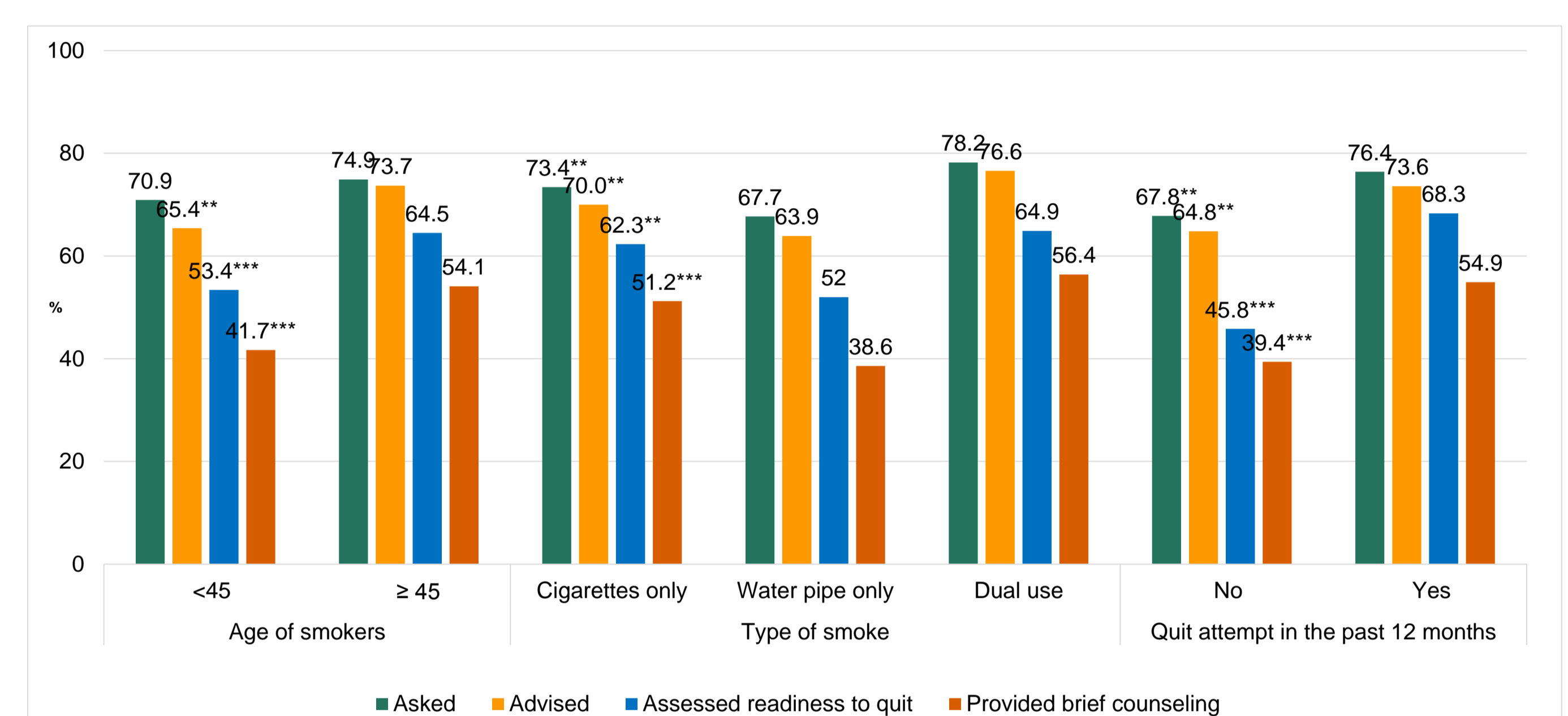


Figure 3: shows significant increased adherence to tobacco use treatment guidelines was associated with physician status and age of health providers (supply factors)

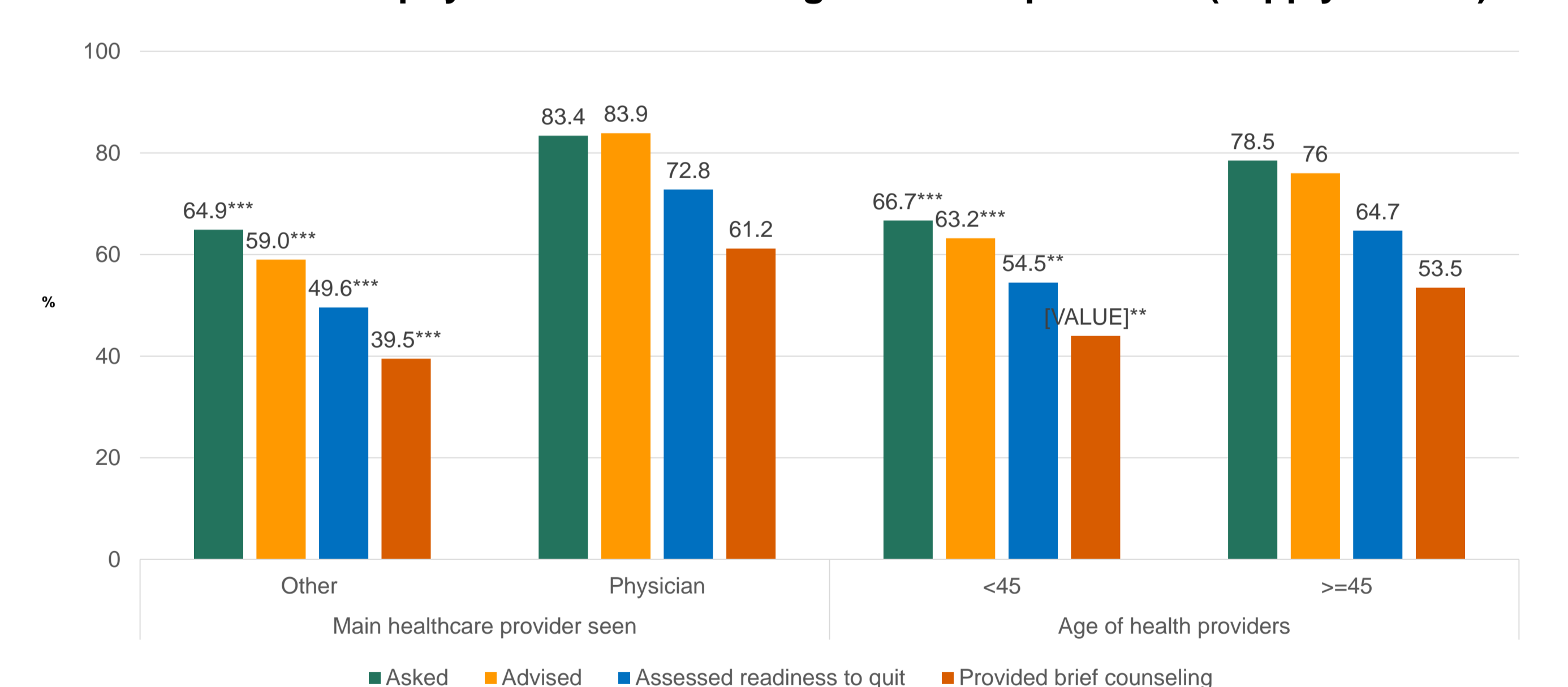


Table 1. shows the significant associations between smoker's factors, health provider's factors with health providers' adherence to each of tobacco use treatment guidelines (asking, advising, assessing readiness to quit, and assisting).

	Asked	Advised	Assessed	Assisted
	OR (95%CI)	OR (95%CI)	OR (95%CI)	OR (95%CI)
Smoker's factors				
Age of smokers	-	-	-	-
<45 (ref)	-	-	1	1
≥45	-	-	1.5* (CI: 1.0-2.1)	1.8** (CI: 1.2-2.5)
Education level of smokers	-	-	-	-
Primary school and less (ref)	1	1	1	-
Secondary school	1.3 (CI: 0.8-2.1)	1.4 (CI: 0.8-2.3)	1.0 (CI: 0.6-1.7)	-
High school	2.3** (CI: 1.3-4.2)	2.6** (CI: 1.5-4.7)	1.9* (CI: 1.1-3.2)	-
Vocational/college and above	2.4* (CI: 1.2-4.8)	3.0** (CI: 1.5-6.1)	1.2 (CI: 0.6-2.2)	-
Type of smoke	-	-	-	-
Water pipe only (ref)	-	1	1	1
Cigarettes only	-	1.2 (CI: 0.8-1.7)	1.3 (CI: 0.9-1.9)	1.4* (CI: 1.0-2.1)
Dual use	-	1.9*** (CI: 1.3-2.8)	1.7*** (CI: 1.2-2.5)	2.5*** (CI: 1.7-3.6)
Quit attempt in past 12 months	-	-	-	-
No (ref)	1	-	1	1
Yes	1.35* (CI: 1.0-1.8)	-	2.3*** (CI: 1.7-3.0)	1.5** (CI: 1.1-2.0)
Health provider's factors				
Main healthcare provider seen	-	-	-	-
Other (ref)	1	1	1	1
Physician	2.6*** (CI: 1.9-3.5)	3.5*** (CI: 2.6-4.8)	2.6*** (CI: 2.0-3.4)	2.2*** (CI: 1.7-2.9)
Age of health providers	-	-	-	-
<45 (ref)	1	1	1	-
≥45	1.8*** (CI: 1.3-2.6)	1.7** (CI: 1.2-2.3)	1.4* (CI: 1.0-1.9)	-

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
(-): only variables with $p < 0.02$ in bivariate analyses were included in the regression models so the (-) means that variable was not included in the model