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Charles J. Greenberg

Wenzhou-Kean University, Wenzhou, China, cjgberg@wku.edu.cn

Lin Wu

University of Tennessee Health Science Center, Memphis, lwu5@uthsc.edu

Xuyu Zhou

Sun Yat-Sen University, Guangzhou, China, zhouxuyu@mail.sysu.edu.cn

Susan Yutong Feng

Wenzhou-Kean University, Wenzhou, China, fengyu@kean.edu

Sam Bodong Chen

Wenzhou-Kean University, Wenzhou, China, chenbod@kean.edu

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**What Roles Do Chinese Health Sciences Libraries Play in Their
Nation's Cigarette Smoking Public Health Crisis?**

Charles J. Greenberg ^{a*}

Lin Wu ^b

Zhou Xuyu ^c

Feng Yutong ^a

Chen Bodong ^a

^a Wenzhou-Kean University, Wenzhou, China

^b University of Tennessee Health Sciences Center, Memphis,
Tennessee

^c Sun Yat-Sen University, Guangzhou, China

* Corresponding Author: cjgberg@wku.edu.cn

Abstract

Objectives: Cigarette smoking remains a major cause of death in China. Are health sciences libraries in China currently providing awareness, advocacy, or research support for the societal benefits of smoking reduction? **Methods:** Following institutional review board approval, Library contacts for Chinese schools of medicine, public health, and pharmacy were identified. A bilingual online survey was constructed to obtain respondents' demographic detail and answers to questions about library resources and services that constitute academic awareness, advocacy, curriculum, or research support about tobacco and smoking. **Results:** 43% of reporting librarians work on a smoke-free campus. 100% of all reporting libraries work in smoke-free libraries, though 6% of the reporting libraries offer a smoking room for staff. All reporting libraries contain printed material on the dangers of smoking. Student requests for materials or acquisition recommendations are infrequent. More than 60% of the librarians report medical residents occasionally ask for tobacco-related literature. Nearly 60% of librarians reported faculty occasionally ask for materials about smoking. More than 60% of instructors were reported to occasionally ask for database searches about cigarettes or tobacco. 33% of librarians reported creating a collection guide about smoking. 15% of reporting libraries hosted a traveling exhibit on smoking. **Conclusion:** Some Chinese health sciences libraries are providing public health information and collaborating with faculty and students to support the reduction of smoking and tobacco use. Anecdotal statements collected from survey participants confirms their awareness of the educational and advocacy roles librarians play in their country's smoking crisis.

Keywords: China, Public Health, Cigarettes, Smoking, Health, Sciences Libraries, Outreach, Advocacy

Background & Objectives

Cigarette smoking remains a major cause of death in China.(Li, Meng, Chiolero, Ma, & Xi, 2016) A systematic analysis of the 2015 Global Burden of Disease (GBD) study of smoking prevalence and attributable disease burden in 195 countries published in 2017 ranked China as having the largest smoking population.(Reitsma et al., 2017) A 2016 *Preventive Medicine* study covering trends in China from 1991-2011 estimated 16.5% of all deaths in men and 1.7% in women were smoking-related and that deaths from smoking related illness actually increased during that 20-year period, from 800,000 to 900,000.(Li et al., 2016) Second-hand smoke in China is a public health problem.(“The healthcare costs of secondhand smoke exposure in rural China | Tobacco Control,” n.d.; Yang, Jiang, Barnett, Peng, & Yu, 2015) In a 31-country study that included China, air nicotine concentration was 17 times higher in households with smokers compared with households without smokers.(Wipfli et al., 2008) A significant proportion of male physicians smoke.(Yu et al., 1995) Chronic tobacco use also causes many non-fatal disease episodes, and much disability.(Chen et al., 2015)

Libraries provide access to a variety of health awareness, advocacy, and health promotion materials.(Collins, 2015; Humphries & Kochi, 1994; Marshall et al., 2013; Shipman, Kurtz-Rossi, & Funk, 2009; Welch, Hoffius, & Fox, 2011) When health sciences libraries serve students, faculty, and clinicians of health sciences disciplines, they may adopt a neutral stance in providing unbiased or balanced information, yet still maintain a strong concern for the quality of the health information they provide.(Keselman, Smith, & Hundal, 2014) There are more than 184 schools of medical education in China(“World Directory of Medical Schools Search,” n.d.), all presumably with some provision for libraries and health information professionals. The research

question of this study is: are health sciences libraries in China currently providing awareness, advocacy, or research support for the societal benefits of reducing dependence on tobacco products? Surveying health information professionals at these Chinese medical schools should provide evidence for roles that Chinese health sciences libraries and librarians have played in their nation's cigarette smoking public health crisis.

Methods

An institutional review board (IRB) at Kean University reviewed the proposed study for protection of human research subjects. The Kean IRB reviewed and approved the study project on November 18, 2016. Library contacts for Chinese schools of medicine, public health, and pharmacy were identified using the World Directory of Medical Education ("World Directory of Medical Schools Search," n.d.). A Google Sheet ("Google Sheets - create and edit spreadsheets online, for free.," n.d.) was used to centralize and share data collection. Authors used social networks and institutional websites to obtain the names and email addresses of librarians, when available. Locating a library or library staff email from Chinese medical school web sites proved to be challenging, given incomplete or non-existing web sites for schools (the World Directory of Medical Education does not provide web site addresses in directory listings). Two of the co-authors took the lead working on the Chinese librarian email address data collection, including making telephone calls to institutions and asking to speak to medical library staff. In many cases, they provided a reason why the information was being requested. "Cold-calling" Chinese medical schools or libraries is an art, not a science. Authors attempted to make clear in Chinese language during phone conversations that the purpose of eliciting librarian email addresses was only for a research project, not to be shared with other parties. Individual names or identities would not be reported. With deliberate effort, librarian email addresses (n=135) were collected

with one email representing one Chinese medical or health sciences library. Taiwan and Hong Kong libraries are also included in the study.

A Chinese-English online survey was constructed using Qualtrics® (“The Leading Research & Experience Software | Qualtrics,” n.d.). The survey title, questions, and responses were prepared for the expected Chinese primary language. The survey contained a total of 19 questions. (*Figures 1 & 2*) Seven questions inquired about the geographical location of a university and its environment either being smoke free or not smoke free. Two open-ended questions also provided participants the opportunity to make comments and to submit their contact information to receive copies of the completed research results. One multiple choice question asked the participants to specify what health science related programs their university offered such as pharmacy, nursing, medicine, public health. Three closed-ended questions and 8 rating questions asked for information on library services, resources, events, and activities that constitute academic awareness, advocacy, curriculum, or research support about tobacco and smoking and the consequences of long-term smoking and tobacco use. The rating questions aimed to get participants’ opinions on health sciences libraries’ role in their nation’s cigarette smoking public health crisis. The rating scales included *never, almost never, occasionally, and often*.

Using the Qualtrics mailing capability, a survey link was created and distributed to the Chinese health sciences libraries on January 13, 2017. However, only 7 responses were received by February 7th, and none of them completed the survey, probably due to the annual Chinese Spring Festival break (“Chinese New Year 2017: Spring Festival Dates and Celebrations,” n.d.). Another concern was the Qualtrics “from” address might be filtered as junk or spam email by

some university email servers resulting in librarians not getting the email. It was suggested that using a known colleague to send the survey link might reduce the chance of the survey being filtered as junk mails. The second survey attempt was distributed to all Chinese medical librarians on February 8th, 2017. This time the anonymous Qualtrics survey email link was prepared from a Chinese medical school librarian staff email account. Those who didn't provide answers to the survey questions were encouraged to take it again and complete the questions. This addressed an additional cultural concern that there is still not a culture of taking online surveys in China, where "no" responses might be mistaken for irrelevancy.

Results

Complete and incomplete responses (n=60) were received from librarians at medical centers and schools in Beijing, Shanghai, and 13 additional provinces. Completed responses (n=35) represent a survey response rate of 26%. 43% of reporting librarians work on a smoke-free campus. (*Figure 3*) 100% of all reporting libraries work in smoke-free libraries, though 6% of the reporting libraries offer a smoking room for staff. (*Figure 4*) All reporting libraries contain printed material on the dangers of smoking; 17% report a significant amount. (*Figure 5*) Student requests for materials about smoking or tobacco addiction are infrequent, and responses ranged from occasionally to never. (*Figure 6*) Acquisition recommendations are infrequent, and responses ranged from occasionally to never. (*Figure 7*) More than 60% of the librarians report student patient doctors, known as medical residents outside of China, occasionally ask for tobacco-related literature. (*Figure 8*) Nearly 60% of librarians reported faculty occasionally ask for material about the consequences of smoking. (*Figure 9*) More than 60% of instructors were reported to occasionally ask for database searches about cigarettes or tobacco. (*Figure 10*) Only

32% of librarians reported creating a collection guide about smoking. (*Figure 11*) 15% of reporting libraries hosted a traveling exhibit on the consequences of smoking. (*Figure 12*)

When asking about their opinion on a health sciences library's role in providing information related to the consequences of tobacco use, 49% of the completed responses (n=17) contain anecdotal comments suggesting health sciences libraries should have done more to support the nation in advocating the effects of smoking and tobacco use on health. Their comments (*Figures 13 & 14*) suggest health sciences libraries should play an active role not only in making information available and accessible but in being more involved in promoting and supporting the nation's cigarette smoking campaign. A word cloud represents the frequency of terms used in in the comments by librarians. (*Figure 15*)

Discussion

The collection of research data via online surveys is a widely adopted technique in the unfiltered information world, and this research project to assess awareness, advocacy, or research support in China offered an opportunity to gather data from a country and culture that is very careful and deliberate in how information is provided and shared. Nevertheless, support for data-driven solutions in China is apparent in businesses, mostly from monitoring performance attributes of employees (McLean, Stakim, Timner, & Lyon, 2016), and Chinese online customer reviews have even been evaluated for the perception of social justice. (Hsu, Yu, & Chang, 2017)

The extraordinary availability and overlap of both personal and professional email accounts elicited during the telephone collection stage provided sufficient evidence for the first attempt at survey data collection, but the awkward timing and coincidence with a Chinese major public holiday period was problematic, as travel and family reunions take precedence over reading or

responding to email at such holiday times. Formal and informal social networks are persistent, but families and family relationships in developing countries are more likely to be perceived as delivering the core values of wellbeing in greater importance than social networks.(Churchill & Mishra, 2016) The second survey attempt, following return to work after the public Chinese holiday, provided sufficient response data.

Conclusion

Some Chinese health sciences libraries are providing public health information and collaborating with faculty and students to support the reduction of smoking and tobacco use. Anecdotal statements collected from survey participants confirms their awareness of the positive roles librarians play in their country's smoking crisis. Conducting email surveys to Chinese health sciences librarians was challenging. Most of the library websites didn't provide librarians' email information, other than a phone number; the English interface of the library websites provided limited information. Chinese health sciences librarians didn't seem to be used to answering online survey questions.

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- **Type of Health Sciences campus** 你所在的学院
- **City** 你所在的城市
- **Province** 你所在的省份
- **Is your campus a non-smoking facility?** 你所在的学校是全面禁止吸烟区吗（以下简称无烟区）？
- **Is your library a non-smoking facility?** 你所在的图书馆是无烟区吗？
- **Does your library provide a room for staff to smoke?** 你所在的图书馆有指定的吸烟区或吸烟室吗？
- **Does your library contain printed material on the dangers of cigarette smoking?** 你所在的图书馆拥有关于吸烟危害健康的书籍或资料吗？
- **How often do students ask for material about the consequences of smoking?** 有学生询问关于吸烟危害健康的书籍或资料吗？
- **Do students recommend library acquisitions related to the dangers of cigarette smoking?** 有学生建议图书馆购买关于吸烟危害健康的书籍或资料吗？
- **How often do instructors/faculty ask for material about the consequences of smoking?** 有老师或教工询问关于吸烟危害健康的书籍或资料吗？

Figure 1 Survey Questions 1-10

- **Do instructors/faculty recommend library acquisitions related to the dangers of cigarette smoking?** 有老师或教工建议图书馆购买关于吸烟危害健康的书籍或资料吗？
- **Has your library created pathfinders or LibGuides or collection guides to assist library users in locating research materials on the consequences and dangers of smoking and second-hand smoke?** 你的图书馆是否出有信息利用指南或定题服务来帮助用户检索关于吸烟或间接吸烟危害健康的资料？
- **Does your library contain books about the consequences and dangers of smoking and second-hand smoke?** 你的图书馆是否拥有关于吸烟或间接吸烟危害健康的资料？
- **Has your library ever hosted a traveling exhibit about the consequences and dangers of smoking and second-hand smoke?** 你的图书馆是否举办过关于吸烟或间接吸烟危害健康的展览？
- **Has a faculty/instructor asked for database searching assistance for a topic related to cigarettes or tobacco?** 有教师要求帮助查找与烟草有关的文献吗？
- **Has a student or medical resident asked for database searching assistance for a topic related to cigarettes or tobacco?** 有学生或住院医师要求帮助查找与烟草有关的文献吗？
- **Has any student or faculty group asked to use a library facility to present information on the consequences of smoking?** 有无学生组织或教师组织要求使用图书馆场地来举办关于吸烟危害健康的讲座？
- **What is your opinion about a health sciences library role in providing information about the consequences of tobacco use?** 关于科学与健康图书馆在提供吸烟危害健康信息资料方面所起的作用你有何看法？
- **Would you like to receive a copy of the the research results? Please provide an email address** 如果你想知道这份调查的结果，请提供你的电子邮件地址。

Figure 2 Survey Questions 11-19

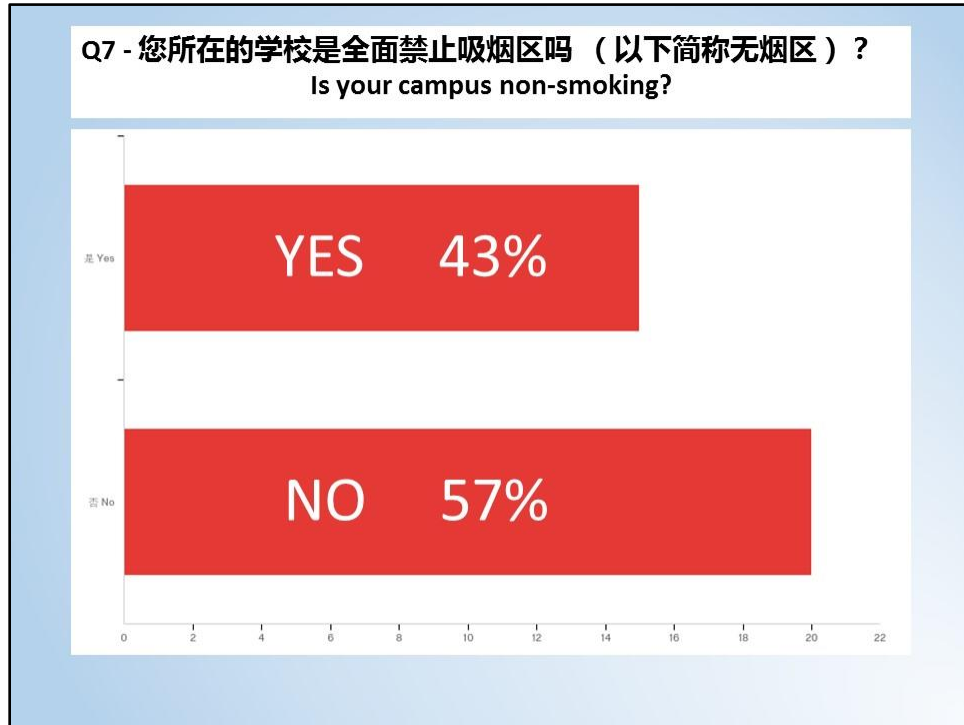


Figure 3: Responses to question about whether a campus has a non-smoking policy

Q9 - 您所在的图书馆有指定的吸烟区或吸烟室吗？
Does your library provide a room for staff to smoke?

#	Answer	%	Count
1	是 Yes	5.71%	2
2	否 No	94.29%	33
	Total	100%	35

Figure 4: Asking whether libraries have a staff room for smoking

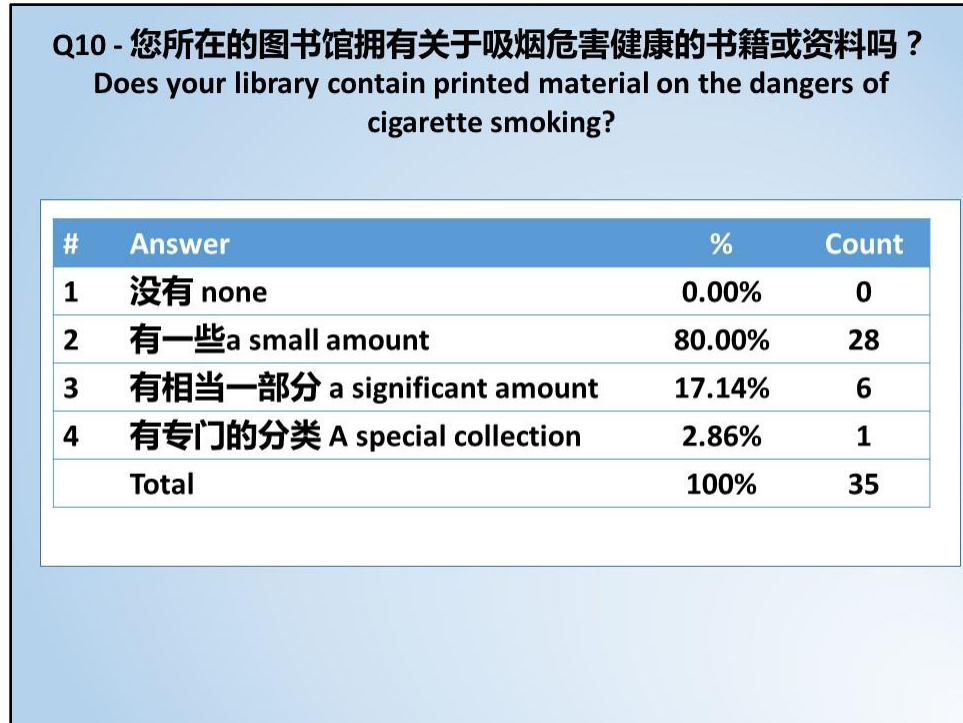


Figure 5: Print Materials on the Dangers of Smoking

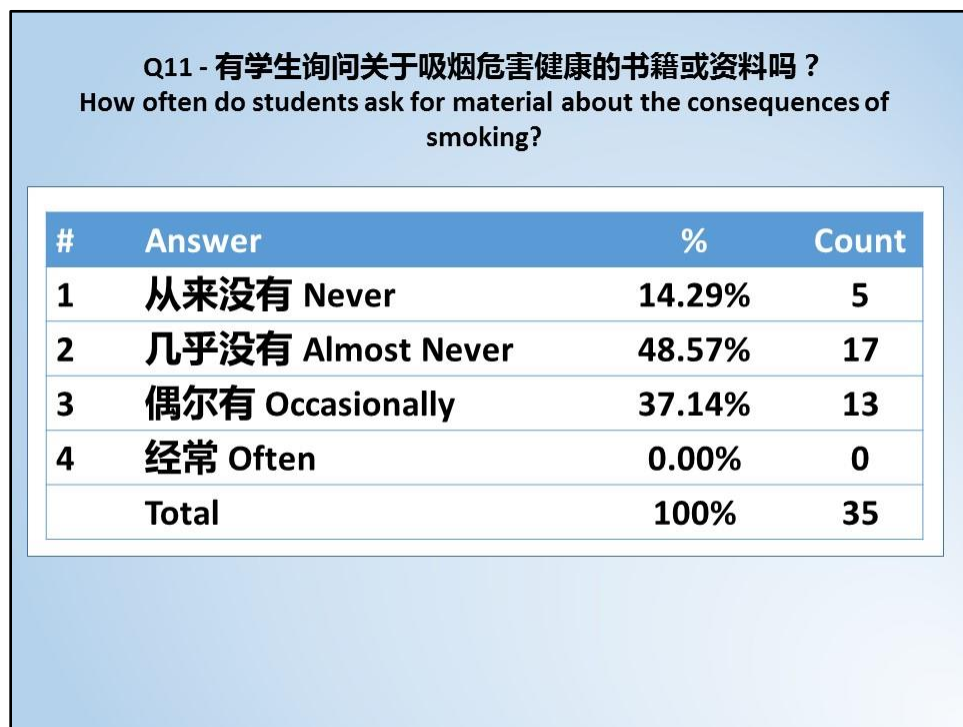


Figure 6: How Often Do Students Ask For Materials About Smoking

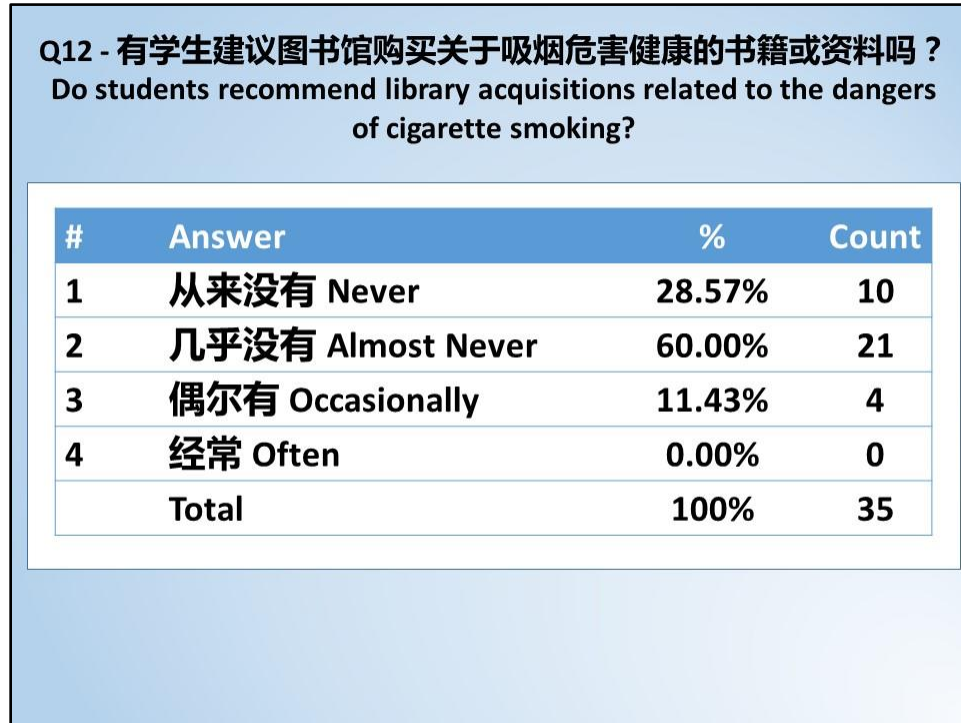


Figure 7: Do students recommend library acquisitions related to smoking?

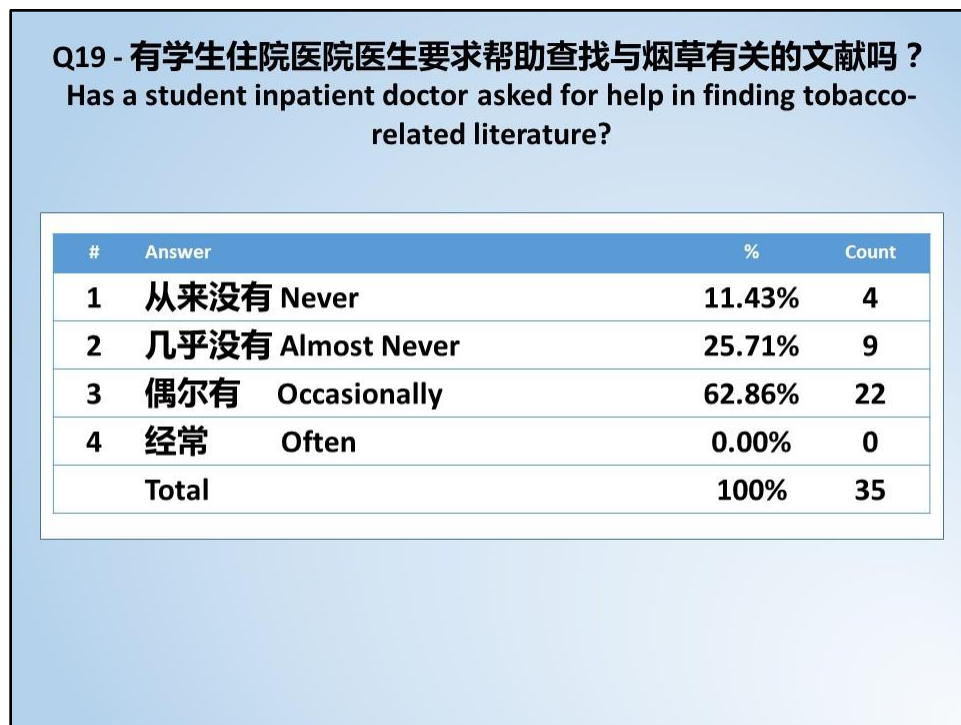


Figure 8: Do Student InPatient Doctors (residents) ask for tobacco literature?

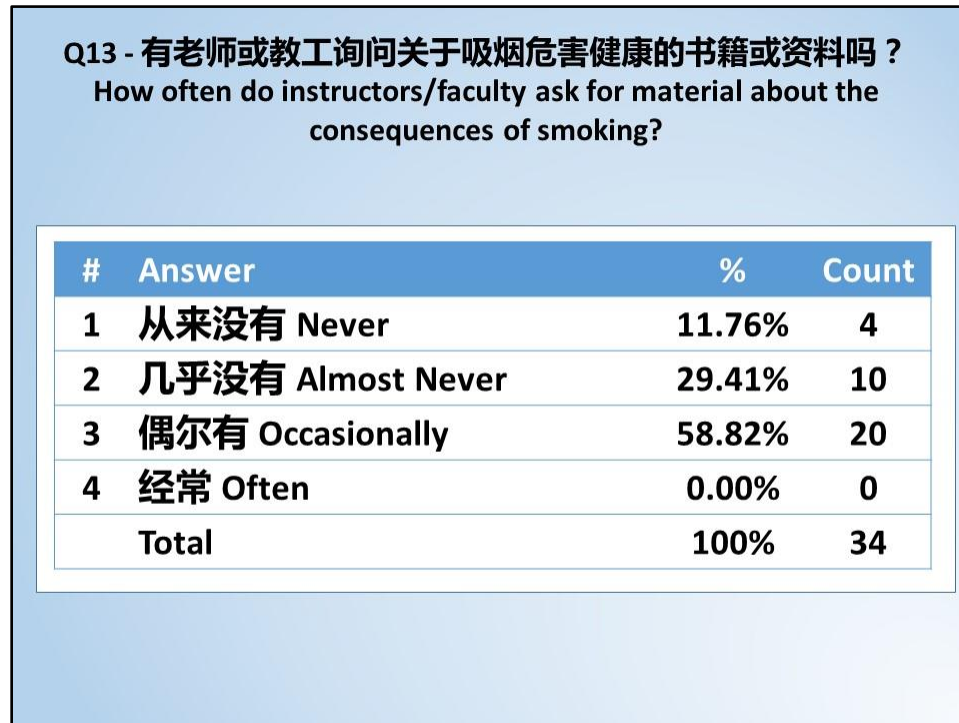


Figure 9: Do Faculty Ask For Smoking-Related Materials?

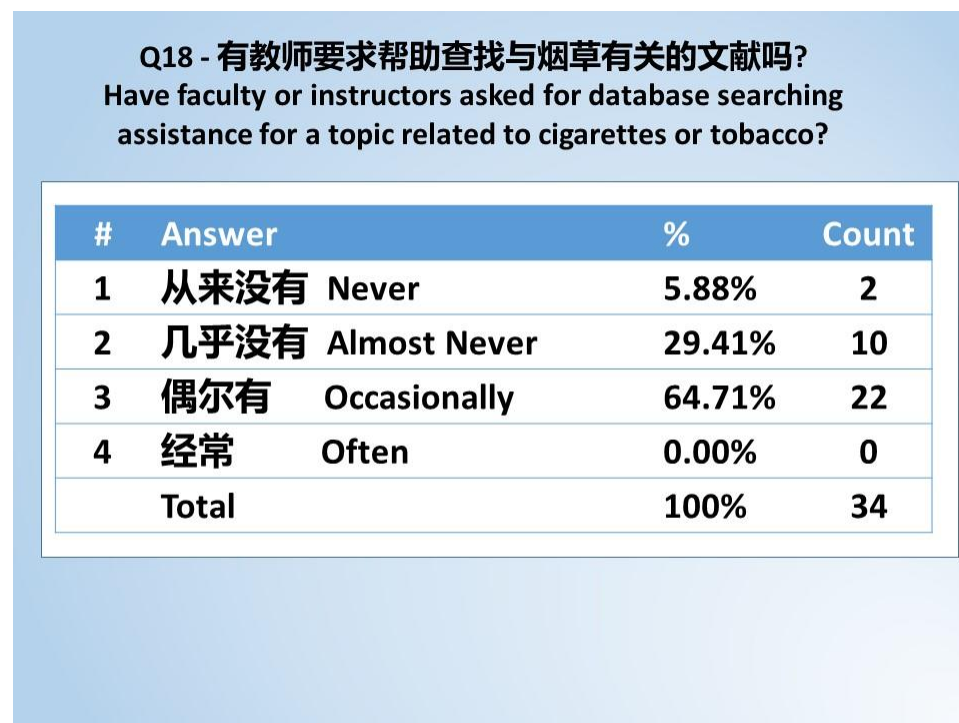


Figure 10: Do Faculty Request Database Searches on topics related to smoking?

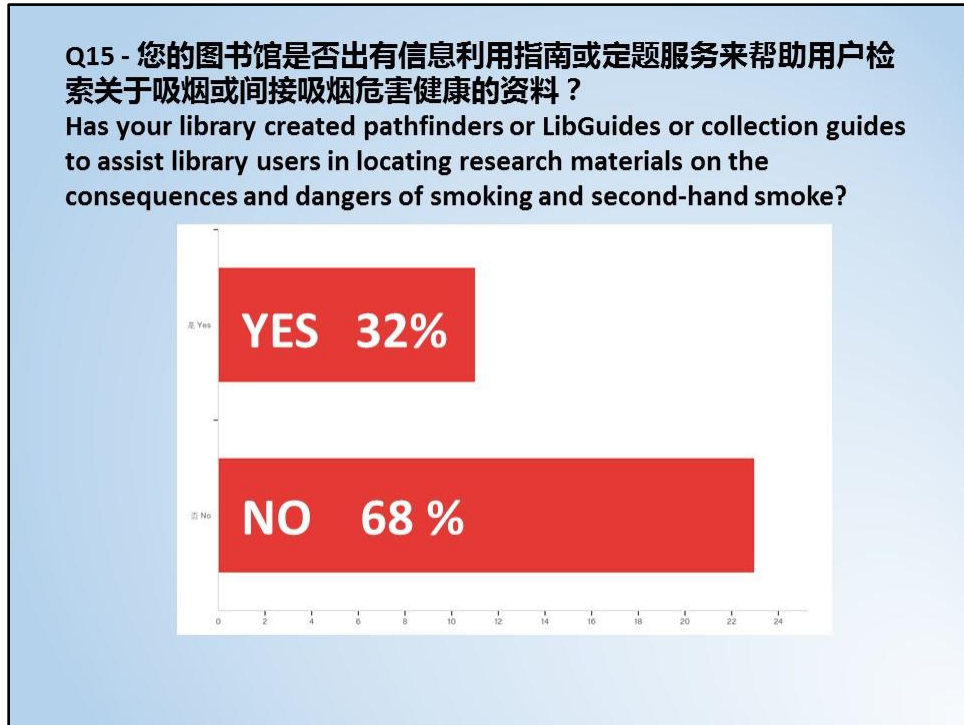


Figure 11: Only 32% of librarians reported creating a collection guide about smoking



Figure 12: Are There Traveling Exhibits About Consequences of Smoking?

What is your opinion about a health sciences library role in providing information about the consequences of tobacco use? (English Translations of Chinese Responses. HSL= Health Sciences Library)
It (HSL) played a limited role.
It should be part of the necessary information/collection for a library
It (HSL) should play a more important role
Provide information about the health effects of tobacco use; popularize the knowledge about health effects of tobacco use
Strengthen the promotion/marketing effort and purchase related materials for readers to check out.
As a special library, HSL should have played a more active role
Special collection should be established to market the consequences of smoking and the benefits of smoking cessation in order to improve HSL's service to the campus and the society
Very necessary for a HSL to provide such information
Good job

Comments Continue...

Figure 13: Comments on the Health Sciences Library Role in Providing Smoking-related Information.

What is your opinion about a health sciences library role in providing information about the consequences of tobacco use? (English Translations of Chinese Responses. HSL= Health Sciences Library)
The library is a good place to publicize the health effects of smoking and it's also the center to provide information on the impact of smoking and tobacco use. Our library also assisted the Ministry of Health with projects and research reports related to health effects of cigarette smoking.
Somewhat necessary
Having the basic information resources available is important, but promoting or marketing effort would be even more important.
HSL should play an active role
Currently it seemed the role HSL had been playing was not that great
HSL should collaborate with its community to initiate and implement some related programs or activities
As the library has expertise in information searching, retrieving, and analysis, it should have been paid more attention. HSLs could play a key/leading role in providing information about the health effects of smoking and tobacco use.
HSL should establish a special collection or host lectures or seminars to the public on the health effects of smoking and tobacco use

Figure 14: Comments on the Health Sciences Library Role in Providing Smoking-related Information.



Figure 15: A Word Cloud Represents the Relative Frequency of Terms Used in in the Comments