

RESEARCH ARTICLE

PERCEPTIONS OF THE OSTEOPATHIC PROFESSION IN NEW YORK CITY'S KOREAN COMMUNITIES

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Objective: The purpose of this study was to assess knowledge of and barriers to osteopathic medicine in Korean communities in New York City.

Design: A cross-sectional study was designed in which a culturally appropriate survey in Korean and English versions was administered anonymously to measure community perceptions and knowledge of osteopathic medicine.

Setting: Data collection occurred in the municipal delineations for the Bayside neighborhood within the New York, New York borough of Queens.

Participants: Community members were selected using convenience sampling from high-density areas to participate. The survey included demographics, education level, health care habits and knowledge of the osteopathic profession.

Results: 105 surveys were conducted with 47 males and 58 females, with an average age = 66. Only 14% (n=15) indicated knowledge about osteopathic manipulative medicine (OMM) and 9% (n=9) indicated knowledge of osteopathic physicians (DOs), with the primary language spoken at home (Korean) as the sole statistically significant factor in recognition of OMM and DOs among the study variables.

Conclusion: Compared to research on the general U.S. population, a general lack of knowledge of osteopathic medicine exists within New York City's Korean community. Although this difference may be ascribed to linguistics and ethnosociological factors, greater outreach and education is needed in urban minority communities to make immigrants aware of all health care resources available during the current shortage of primary care physicians in the U.S.

INTRODUCTION

In the U.S., a doctor of osteopathic medicine (DO) is a licensed medical professional with identical practice rights and privileges as an allopathic physician (MD).¹ Recognition of DOs and osteopathic manipulative medicine (OMM) on an international level is varied; however, South Korea only gave practicing rights to DOs in 2018.^{2,3} Even less is known about osteopathic medicine and health care as a whole in North Korea.⁴ In both countries, western medicine

is synonymous with allopathic medicine; this creates a scenario in which immigrant communities lack exposure and familiarity with DOs.^{5,6} This can result in underutilization or distrust in the face of proven advantages and efficacy in OMM as diagnostic and treatment tools.⁷⁻⁹ As many osteopathic medical schools emphasize the importance of primary care and addressing the needs of marginalized and underserved communities, the lack of awareness and lack of educational outreach regarding the osteopathic profession in marginalized communities may act as barriers to those attempting to seek care, especially in areas with a health care shortage.^{10,11} With limited research on osteopathic medicine recognition in immigrant populations, this study aimed to develop a culturally-appropriate survey to assess osteopathic awareness in New York City's Korean communities.¹²⁻¹⁴ Secondary objectives included identifying previous research and potential barriers in outreach in the Korean community and other minority groups.¹⁵

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This study aimed to investigate osteopathic awareness by assessing the familiarity of DOs and OMM in one of the nation's largest Korean diasporas, New York City, New York's Queens enclave. We hypothesized that greater osteopathic outreach and education needed to occur in Korean communities to increase access to primary care providers and alternative care options. This project expanded on previous frameworks on research in minority communities and characterized potential barriers that may hinder OMM access and, by extension, overall health care.^{12,16}

METHODS

Participants

New York, New York has the highest number of Asian Americans in the U.S. with over 1.1 million across the five boroughs in the 2010 census.¹⁷ Participants were located in known high-density locations of Korean and Korean Americans in the municipal delineations of the Bayside neighborhood within the New York City borough of Queens. According to the Asian American Federation's 2015 survey, about 70% of NYC's Korean residents were foreign-born and 60% lived in Queens, residing in Bayside's high-density neighborhoods.

Participants were informed, both verbally and with the inclusion of a cover letter, that participation was voluntary and responses required no identifiers to protect participants' anonymity. Minors, those who did not demonstrate a complete understanding of the basis of the survey and those who were unable to give informed consent, were omitted from this study. The Health Sciences Institutional Review Board approved this study for the Protection of Human Subjects (HSIRB #1777E).

Measures

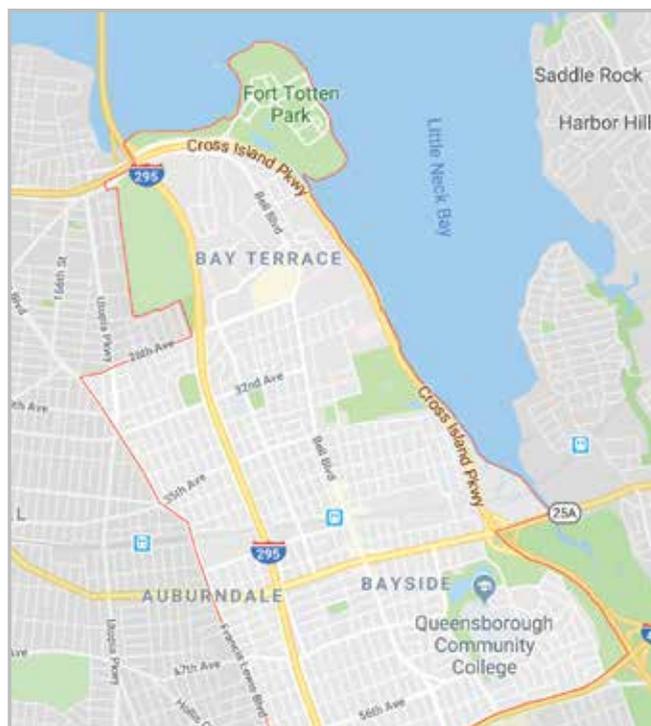
A twelve-question mixed multiple-choice and dichotomous (yes/no) survey was developed specifically for this study to measure osteopathic awareness. The survey was provided on paper in English and Korean. The survey included questions regarding demographics (age, gender, education level), language (primary language, English proficiency), health care habits (regularity of doctor visits, type of doctors visited), knowledge of OMM and a clinical scenario of low back pain (LBP), one of the most common reasons for doctor visits and one for which osteopathic manipulative treatment (OMT) has been shown to treat effectively, was provided to participants.^{18,19}

Data Collection

Medical student researchers were located within the municipal delineations for the Bayside neighborhood within the New York, New York borough of Queens. They utilized convenience sampling in high-density areas, including major thoroughfares and parks (Figure 1), to obtain participants available for the study. All subjects were invited to participate with exclusion criteria of minors and those who were unable to consent to/understand the study. No other specific recruitment methodologies were utilized. No financial compensation or other incentive was provided to participants who voluntarily took the survey. Collection occurred over four consecutive days, May 28 through May 31, 2019.

FIGURE 1:

Data collection was done in the high-density population of Bayside, Queens, within the municipal borders.



Data Analysis

Survey data was scanned and a data spreadsheet was electronically created using a licensed version of Microsoft Excel, version 2016 (Microsoft Corporation, Redmond, WA). The data was subsequently coded for statistical analysis. Group comparisons were completed using Pearson's chi-squared tests (χ^2 tests) of independence to examine the difference, if any, between health habits and demographics (age, sex, birth location, years in the U.S., primary language, English proficiency and education level), and awareness of the DO profession and knowledge of OMM. Statistical analysis was performed using the release version R-2.15.3.tar.gz of R: A Language and Environment for Statistical Computing, developed in Vienna, Austria, by the Core Team of the Foundation for Statistical Computing.²⁰

RESULTS

A total of 105 participants were surveyed and included analyses of participant demographics versus familiarity with DOs and OMM. Forty-seven males and 58 females were included in the study with an age range of 27–92 and a mean age of 66 ± 9.83 . Of the 105 participants surveyed, only 14% ($n=15$) indicated knowledge about OMM and 9% ($n=9$) indicated knowledge of DOs, with demographics generally similar to the overall community. Detailed demographic data and results are displayed in Table 1.

In our study, knowledge of DOs and OMM was highest among English proficient participants, with a scattered distribution found

in other demographics. The primary language spoken at home was the sole statistically significant factor for whether participants had knowledge of DOs and OMM. In this category, Korean was the overwhelmingly predominant language for overall participants and subsequently those with and without knowledge of DOs and

OMM (100%, $p < 0.0046$, Table 1). Among the Korean community members surveyed, no significant difference in knowledge of DOs or OMM was present among groups when stratified based on sex, age, location of birth, number of years living in the U.S., level of education completed and self-assessed English proficiency (Table 1).

TABLE 1:

Demographic characteristics of all participants compared with participants with knowledge of DOs and OMM knowledge of DOs and OMM

CHARACTERISTIC	ALL PARTICIPANTS (N=105)	ALL PARTICIPANTS (N=105)	WITHOUT KNOWLEDGE OF DOS (N=96)	P-VALUE	KNOWLEDGE OF OMM (N=15)	WITHOUT KNOWLEDGE OF OMM (N=90)	P-VALUE
SEX							
Male	47 (44.76%)	5 (5.56%)	42 (43.75%)	0.3854	7 (46.67%)	29 (32.22%)	0.5667
Female	58 (55.24%)	4 (4.44%)	54 (56.25%)		8 (53.33%)	61 (67.78%)	
AGE (Y)							
Median	66	62	67		63	67	
18–29	1 (0.95%)	0	1 (1.04%)	0.6891	0	1 (1.11%)	0.8232
30–39	2 (1.90%)	1 (11.11%)	1 (1.04%)		1 (6.67%)	1 (1.11%)	
40–49	8 (7.62%)	0	8 (8.33%)		0	8 (8.89%)	
50–59	12 (11.43%)	3 (33.33%)	9 (9.38%)		4 (26.67%)	8 (8.89%)	
60–69	38 (36.19%)	3 (33.33%)	35 (36.46%)		6 (40.00%)	32 (35.56%)	
70–79	23 (21.91%)	0	23 (23.96%)		2 (13.33%)	21 (23.33%)	
≥80	21 (20.00%)	2 (22.23%)	19 (19.79%)		2 (13.33%)	19 (21.11%)	
LOCATION OF BIRTH							
Republic of Korea	101 (96.20%)	8 (88.89%)	93 (96.88%)	0.1764	14 (93.33%)	87 (96.67%)	0.4919
DPRK*	2 (1.90%)	0	2 (2.08%)		0	2 (2.22%)	
China	2 (1.90%)	1 (11.11%)	1 (1.04%)		1 (6.67%)	1 (1.11%)	
LENGTH OF TIME IN U.S. (YEARS)							
0–10	12 (11.43%)	1 (11.11%)	11 (11.46%)	0.4413	1 (6.66%)	11 (12.22%)	0.0751
11–20	20 (19.05%)	2 (22.22%)	18 (18.75%)		4 (26.67%)	16 (17.78%)	
21–30	20 (19.05%)	3 (33.34%)	17 (17.71%)		4 (26.67%)	16 (17.78%)	
31–40	45 (42.85%)	1 (11.11%)	44 (45.83%)		3 (20.00%)	42 (46.67%)	
≥41	8 (7.62%)	2 (22.22%)	6 (6.25%)		3 (20.00%)	5 (5.55%)	
HIGHEST LEVEL OF EDUCATION							
Elementary	7 (6.67%)	0	7 (7.28%)	0.1992	1 (6.67%)	6 (6.67%)	0.1112
High School	30 (28.56%)	1 (11.10%)	29 (30.21%)		8 (53.33%)	22 (24.44%)	
College	49 (46.67%)	4 (44.45%)	45 (46.88%)		6 (40.00%)	43 (47.78%)	
Graduate School	19 (18.10%)	4 (44.45%)	15 (15.63%)		0	19 (21.11%)	
ENGLISH PROFICIENCY							
No proficiency	11 (24.17%)	0	11 (11.46%)	0.0920	0	11 (12.22%)	0.0768
Yes proficiency	94 (75.83%)	9 (94.44%)	85 (88.54%)		15 (100%)	79 (87.78%)	
Basic	49 (26.37%)	2 (29.41%)	47 (55.30%)		4 (26.67%)	45 (56.96%)	
Conversational	39 (4.40%)	6 (%)	33 (38.82%)		10 (66.67%)	29 (36.71%)	
Fluent	6 (69.23%)	1 (70.59%)	5 (5.88%)		1 (6.66%)	5 (6.33%)	
PRIMARY LANGUAGE							
English	0	0	0	0.0046*	0	0	0.0484*
Not English	105 (100%)	9 (100%)	96 (100%)		15 (100%)	90 (100%)	
Korean	104 (99.05%)	8 (88.89%)	96 (100%)		14 (93.33%)	90 (100%)	
Mandarin	1 (0.95%)	1 (11.11%)	0		1 (6.67%)	0	

* Democratic People's Republic of Korea, official name of North Korea

Concerning the study participants' health care habits, no difference in knowledge of DOs or OMM was found between those who visited their doctor regularly versus those who did not see their doctor regularly (Table 2). Of those participants who regularly see their doctor, 88% reported seeing their family physician (Table 2).

Concerning the clinical scenario of lower back pain (LBP) presented to study participants, no participants indicated that they would see a DO compared to their family physician, chiropractor, acupuncturist or oriental medicine healer (Table 2).

TABLE 2:

Health habits of participants versus those with knowledge of DOs and OMM

QUESTION	ALL PARTICIPANTS (N=105)	KNOWLEDGE OF DOS (N=9)	WITHOUT KNOWLEDGE OF DOS (N=96)	P-VALUE	KNOWLEDGE OF OMM (N=15)	WITHOUT KNOWLEDGE OF OMM (N=90)	P-VALUE
DO YOU SEE A DOCTOR REGULARLY?							
Yes	79 (75.24%)	6 (6.67%)	73 (76.04%)	0.7861	12 (80.00%)	67 (74.44%)	0.6217
No	26 (24.76%)	3 (3.33%)	23 (23.96%)		3 (20.00%)	23 (25.56%)	
WHAT KIND OF DOCTOR DO YOU SEE?							
Family doctor	92 (87.62%)	8 (88.89%)	84 (87.5%)	0.6838	15 (100%)	77 (85.56%)	0.5878
OMM physician	0	0	0		0	0	
Chiropractor	4 (3.81%)	0	4 (4.17%)		0	4 (4.44%)	
Acupuncturist	6 (5.72%)	1 (11.11%)	5 (5.21%)		0	6 (6.67%)	
Oriental medicine	1 (0.95%)	0	1 (1.04%)		0	1 (1.11%)	
Physical therapy	1 (0.95%)	0	1 (1.04%)		0	1 (1.11%)	
Physician assistant	1 (0.95%)	0	1 (1.04%)		0	1 (1.11%)	
WITH LBP, WHAT DOCTOR WOULD YOU SEE?							
Family doctor	29 (27.62%)	2 (%)	27 (%)	0.8559	6 (40.00%)	23 (25.56%)	0.1654
OMM physician	0	0	0		0	0	
Chiropractor	25 (23.81%)	2 (%)	23 (%)		2 (13.33%)	23 (25.56%)	
Acupuncturist	21 (20.00%)	0	21 (%)		4 (26.67%)	17 (18.89%)	
Oriental medicine	21 (20.00%)	3 (%)	18 (%)		2 (13.33%)	19 (21.11%)	
Physical therapy	9 (8.57%)	2 (%)	7 (%)		1 (6.67%)	8 (8.88%)	
Physician assistant	0	0	0		0	0	

DISCUSSION

Among survey participants, there is a general lack of awareness of DOs and OMM in the Korean community in New York City's Queens Koreatown. The sole statistically significant factor appeared to be the primary language spoken at home, in this case, Korean, such that since no participants indicated other languages, this could be the reason for this finding. Compared to the inaugural study on awareness of DOs and OMM in New York City's Manhattan Chinatown, other factors such as age, English proficiency and education level were not statistically significant for the Korean community.¹² Before the aforementioned study, the decennial Osteopathic Survey of Health Care in America (OSTEOSURV) was the sole prognosticator for osteopathic recognition in the U.S. Released by the American Osteopathic Association in 1998, 2000 and 2010, Asian and Pacific Islander Americans are

presumably included in the category of "Other (including >1 race)" and "Non-Hispanic," leading to a gross simplification and homogenization of this population in America.^{13,14,21} Local, state and federal initiatives have validated the need for disaggregated data as a way of dissecting health trends and practices within Asian communities.^{22,23} While the Chinatown study serves as a watershed for osteopathic research in minority communities; it cannot be a complete representation of the entire Asian and Pacific Islander racial group.¹² Unique sociohistorical and ethnolinguistic heritages separate Chinese and Korean communities, despite a shared experience of discrimination and struggle in America.²⁴ Therefore, translating the Chinatown survey into Korean was necessary to provide a targeted approach in contextualizing the lack of osteopathic awareness and potential barriers to outreach in the Korean community.

As with much of Asia and Oceania, OMM in Korea is a relatively new concept and branch of medicine in western medicine's larger pantheon. Founded in 1874, OMM was initially conceived as an alternative to traditional allopathic medicine.²⁵ In the same time period, the first western medical institution was opened in Seoul, in what would today be part of the Yonsei University Health System.²⁶ Similar to other East Asian groups in the sequential decades, western medicine, in the guise of allopathic medicine, has largely supplanted eastern and traditional Korean medicine; a set of practices that drew heavily from Sino-Japanese interactions as well as indigenous healers.^{27,28} As with many Sino-Tibetan and Altaic families of language, semantic genericization of medical classifications and terminology have tended to defy native language schemas, resulting in an inability to capture the difference between osteopathic and allopathic medicine.²⁹ Jeongtong-uihag (정통의학) and its variants are used interchangeably with Western medicine to contrast itself from han-uihag (한의학) for traditional Korean medicine.^{30,31} In recent years, efforts to expand osteopathic medicine in South Korea through international electives and academic partnerships have necessitated the neologism of jeong-gol uihag (정골 의학). However, it is a term that has yet to enter the vernacular of everyday usage.^{32,33} Usage of jeong-gol uihag is further complicated as the terminology is applied equally to non-American practitioners of osteopathy whose philosophical roots mirror their American counterparts but lack the full scope of medical training.^{1,34} Greater outreach and materials utilizing the jeong-gol uihag terminology can strengthen osteopathic recognition within the Korean community. With such a historical and linguistic context, greater outreach must be done to inform members of the Korean community of the American osteopathic profession.

Manual manipulation of the musculoskeletal system, however, is not unknown to the Korean community. Chuna (추나) is a traditional Korean medicine manipulation procedure that restores function and structural balance in a non-invasive manner and is applied to physical and psychiatric infirmities.^{35,36} With a long-documented history in both Chinese and Korean texts, its methods and goals align fairly well with the osteopathic tenets espoused by its founder, Dr. A.T. Still.^{37,38} Used in low back pain and other similar clinical scenarios, its usage is so prevalent that promotion and physician reimbursement is covered under the national insurance of South Korea.^{39,40} Similarly, dosu (도수) describes a mix of chiropractic and physical therapy techniques aimed at stretching and relaxing targeted muscles while improving range of motion and body functions through musculoskeletal realignment.^{41,42} Graphing this to modern osteopathic treatments, dosu combines post-isometric relaxation elements through muscle energy, functional positional release and high-velocity/low-amplitude thrust techniques with post-treatment patient exercise maintenance.⁴³ In South Korea, various providers administer chuna and dosu, ranging from orthopedic and pain management physicians to traditional Korean medicine practitioners and physical therapists.^{29,39,40} Due to the similarity between OMM to existing Korean practices, survey participants easily understood osteopathic concepts and accepted its benefits when given information after the survey.

International licensure and practice rights continue to be a priority for the American Osteopathic Association (AOA), with recent efforts in the past decade to expand recognition and culminating in strategic global partnerships with the Osteopathic International Alliance and the Bureau of International Osteopathic Medicine.^{2,3} In 2017, collaborations between the AOA, the Korean Society of Chuna Manual Medicine and Jaseng Medical Foundation fostered a greater understanding of osteopathic medicine with traditional Korean medicine.⁴⁰ This ultimately resulted in the Korean Ministry of Health and Welfare to allow osteopathic physicians to undertake licensing exams and be recognized as physicians.² Unfortunately, while having such successes abroad, limited outreach has been done in the U.S. to ethnic diasporas such as the Korean community.^{12,14,44} Of note, most participants chose non-physician-based care (physical therapist, acupuncture, traditional medicine and chiropractor) in the clinical scenario of low back pain. Here, the observance of Koreans living near other Koreans helps to explain this result, as word-of-mouth plays a significant role in Koreans determining their primary mode of medical treatment.⁴⁵ Therefore, a multilayered approach and contextual/nuanced view are needed if osteopathic awareness and recognition occur in communities that lack exposure to the field.

With the broad implications of osteopathic awareness in the Korean community, this study has several limitations. The Korean community surveyed is but one of several high-density areas, with Manhattan's Koreatown enclave and New Jersey's Bergen County holding sizable numbers of Korean Americans who live and work in those locations. As the surveys were conducted mid-day, this survey may not be a true representation of osteopathic awareness in this large community. While the primary language spoken at home was the sole statistical significance, the study's confines presented challenges in determining the exact reason, as dialectical differences in the Korean language were not accounted for. Coupled with the familiarity between various Korean traditional medicine modalities and OMM, future studies could assess the effectiveness of OMM demonstrations/pamphlets on the willingness to see a DO, comparing multiple Korean communities in the tri-state area at varying times of the day or comparing osteopathic awareness across other Asian communities with a qualitative or mixed-method study.

CONCLUSION

There is a general lack of awareness of osteopathic physicians and osteopathic manipulative medicine in the Korean community in New York's Bayside Koreatown. Regardless of age, gender, country of origin, English proficiency or level of education, most participants did not recognize the profession, which may reflect the lack of outreach in ethnic minority communities. Despite OMM's proven efficacy on LBP, the majority of the Korean community surveyed did not know that OMM is a suitable option for conservative management. This study adds to research on osteopathic awareness in ethnic communities and may further potential outreach to develop specific programs in increasing their knowledge of the osteopathic field.

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