

Experience and Prior-Education in Medical Volunteering among Korean Medicine Students: a survey study

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Objectives: Medical volunteer activities of the college of Korean medicine (KM) are stipulated in Article 19 of the enforcement regulations of the medical law (medical practice of medical students, etc.). At D University, 31.8% of students are participating in medical volunteer activities during the summer vacation. Through students belonging to the three clubs, we would like to investigate and analyze the experience and form of medical service, participation motivation, satisfaction, mental growth, progress of prior education, and needs for improvement.

Methods: Out of 289 students at D University, 92 students participated in summer medical volunteer activities through three clubs during July 2024. An online survey was conducted from July 30 to August 7, 2024, with 55 students responding (response rate: 59.8%). The questions in the survey consisted of a total of 22 questions based on previous studies.

Results: The main purpose of participation in medical service by KM university students was to gain new knowledge or experience. 90.9% of students were satisfied with the medical volunteer activities. Pre-education for medical volunteer activities was conducted to all students, and only 11.5% of students took formal pre-education at the school level. 67.3% of students answered that there was a need for improvement in regular school classes in acquiring prior knowledge, and in particular, there were many responses from 1st · 2nd graders of KM course.

Conclusion: This study identifies the strengths and weaknesses of medical volunteer activities among KM students. While satisfaction is high (90.9%), the reliance on informal preparation indicates a need for formal support and training in the curriculum. With 70.9% interested in lifelong volunteering, improving structured programs could enhance educational outcomes and community healthcare engagement.

Keywords: education, Korean medicine, medical volunteer work, volunteer work

INTRODUCTION

Medical volunteering involves dedicating time to medical activities without the expectation of compensation. Volunteers often gain various physical and psychological benefits including leadership, self-confidence, critical thinking, and conflict mediation skills [1]. Beyond addressing immediate health conditions, medical volunteering embodies the universal principles of health equity and social responsibility in healthcare [2]. Korean medicine (KM) volunteering is distinctive in its integration of

KM therapies such as acupuncture, moxibustion, and herbal medicine. Unlike conventional medical practices that often require complex equipment and facilities, KM delivers effective therapeutic outcomes through portable and accessible methods like acupuncture and moxibustion [3]. This enables students to provide treatments that closely resemble clinical practice settings, creating opportunities for both service delivery and educational development [4]. These activities allow students to provide essential healthcare to underserved populations while enhancing their clinical competencies within the KM frame-

work [4].

According to Article 19 of the enforcement regulations of the medical law (medical practice of medical students, etc.), students majoring in medicine, dentistry, nursing, or KM are allowed to perform clinical treatments, including “medical volunteer activities for the public under the guidance and supervision of a medical professional” [5]. Such volunteer activities enhance students’ practical skills [4] and foster ethical values and social responsibility, positively influencing academic performance and post-graduate volunteer participation [6]. Medical volunteer work complements the professional knowledge-based medical education curriculum by emphasizing character education and community service [7]. The purpose of medical volunteer work for health professionals, including students, centers on cultivating compassion, a spirit of service, empathy, and a deeper understanding of patient needs. These are humanitarian values that serve as the foundation for developing technical skills and clinical knowledge [8].

Despite the growing significance of medical volunteering in healthcare education, research on the volunteer experiences of KM students remains limited. While some studies on medical volunteer work within KM exist [4, 6, 9, 10], few have specifically targeted KM students [4, 6, 9]. Among these, most focus on satisfaction [6, 9], with others exploring capacity building and activity guidelines [4]. This indicates a gap in research, given the educational significance of medical volunteering [6]. KM students perform a variety of treatments such as herbal medicine, acupuncture, Chuna therapy, and cupping therapy during volunteer work [9], making appropriate pre-education critical [11, 12]. Pre-education should encompass not only the practical knowledge and skills required [12] but also the roles, responsibilities, and ethical considerations involved in volunteering [13]. However, research exploring the relationship between pre-education and the volunteer experiences of KM students remains scarce.

This study aims to address this gap by surveying 55 students from three clubs (AA, BB, CC) at D College of KM in Busan, who participated in medical volunteer work during July 2024. The study analyzed their experiences, motivations, satisfaction, personal growth, and pre-education status, aiming to propose strategies to improve and sustain medical volunteer work while offering insights into the development of Korean medical education in this field.

MATERIALS AND METHODS

1. Research subjects and procedure

This cross-sectional survey study targeted students from three academic clubs (36, 21, and 35 students, respectively; 92 in total) out of a total of 289 who participated in a medical volunteer camp during July 2024 at D University in Busan. Before the survey, participants were informed of the study’s purpose and content, and only those who voluntarily agreed to participate and consented to the collection and use of personal data were included. Of the 92 eligible participants, 55 students completed the survey (response rate: 59.8%), which was conducted from July 30 to August 7, 2024.

2. Survey development

The survey instrument was systematically developed by combining established measures from previous research with new items specific to KM volunteering. For general volunteering aspects, we used validated items from previous quantitative studies to ensure reliability [14-18] and to serve as a foundation for validity.

To address the unique characteristics of KM medical volunteering, the development process involved three phases: 1) Drafting a questionnaire based on the authors’ KM volunteering experiences; 2) Content validation through expert review by a faculty member experienced in medical volunteer programs and a clinical education expert specializing in assessment tool development; and 3) Refining items based on expert feedback, focusing on clarity, relevance, and comprehensiveness.

The final survey comprised 75 questions across seven categories. Though no formal pilot testing was conducted, the expert review ensured content and face validity.

3. Research tools

The survey was administered to the participants via the online platform Moaform. The questionnaire was developed based on previous studies [14-18] and refined through discussions among the research team. The survey instrument comprised 22 main questions with additional sub-questions, totaling 75 items (Supplementary 1). Each main question had sub-questions to gather detailed information. For example, the satisfaction assessment consisted of one main question with 21 sub-items,

rated on a 5-point Likert scale. The questions were categorized as follows.

1) Motivation for participation

One question (Q8) assessed students' "motivation and purpose for participating in medical volunteer work," adapted from a prior study [14].

2) Participation form and experience

Three questions (Q5-7) examined the nature of the students' volunteer work including the types of activities (e.g., clinics, domestic and overseas camps, Korean medical clinics, and hospitals), the "number of times students participated in volunteer work," and "the pathway through which they became involved in volunteer work."

3) Satisfaction

Two questions (Q18, Q19) measured satisfaction with the volunteer work using a 5-point Likert scale. Satisfaction dimensions were adapted from Ha [15] and covered "new experiences, social responsibility, meeting expectations, social recognition, social interaction, social exchange, and achievement." Each dimension was measured using 21 items, with three questions per dimension.

4) Mental growth after medical volunteer work

One question (Q20) assessed changes in "attitude, social responsibility, self-identity, self-efficacy, and perseverance" following volunteer participation, using a 5-point Likert scale [16].

5) Pre-education

Four questions (Q9-12) explored the students' preparation before their volunteer work. These questions, adapted from previous studies [17, 18], and measured on a 5-point Likert scale, included sources of support for preparation, pre-education content, perceived usefulness, and necessity, adapted from previous research [16].

6) Improvement points (pre-education, beyond pre-education)

Six questions (Q13-17, Q21) addressed potential school-level improvements related to pre-education, including integrating volunteer-related content into curricula. If respondents indicated the need for improvements, additional questions inquired about the specific areas of improvement, such as subjects to emphasize for capacity building. Furthermore, three questions

solicited suggestions for improving and promoting medical volunteer work, referencing previous research [14].

7) Open-ended response

One open-ended question (Q22) allowed students to freely express their thoughts or suggestions regarding their volunteer work experience.

4. Statistical analysis

Statistical analysis was performed using Microsoft Excel (Microsoft 365, Microsoft Corporation, Redmond, USA). Initially, raw data were exported from Moaform to Excel, where responses were systematically coded and categorized according to the survey sections. Descriptive statistics were then calculated for each item, including frequencies and percentages for categorical variables, and means and standard deviations for Likert scale items. All numerical values were rounded to two decimal places for consistency. We performed cross-tabulations to analyze relationships between variables, particularly satisfaction levels across different academic years and clubs.

Key findings were visualized in Excel through appropriate charts and graphs, chosen by consensus among three researchers. For qualitative data from open-ended responses, we conducted word frequency analysis and generated a word cloud using an online tool (wordclouds.com). Detailed survey results with statistical breakdowns are provided in [Supplementary 2](#).

RESULTS

1. Demographic characteristics

The respondents' academic years were distributed as follows: 13 respondents (23.4%) in both the second year of the pre-KM program (pre-KM2) and the first year of the KM program (KM1), 10 respondents (18.0%) in both the first year of the pre-KM program (pre-KM1) and the second year of the KM program (KM2), and smaller proportions in the third and fourth years of the KM program (KM3: 3 respondents - 5.4%, KM4: 6 respondents - 10.8%). A detailed breakdown by academic year is shown in [Fig. 1](#).

2. Motivation for participation

Most respondents (80.0%) cited "gaining new knowledge

or experience” as their primary motivation for participating in medical volunteer work. Smaller proportions chose “utilizing my knowledge and skills” (12.7%) or “social responsibility and a sense of duty” (3.6%). Notably, among participants with fewer than five instances of volunteering, 96.1% selected gaining knowledge or experience as their primary motivation. In contrast, only 57.9% of those with over 10 instances chose the same motivation, reflecting a shift in motivation with increased experience (Fig. 2).

3. Satisfaction

A majority of respondents (90.9%) were satisfied with their medical volunteer work, with 58.2% being “very satisfied” and

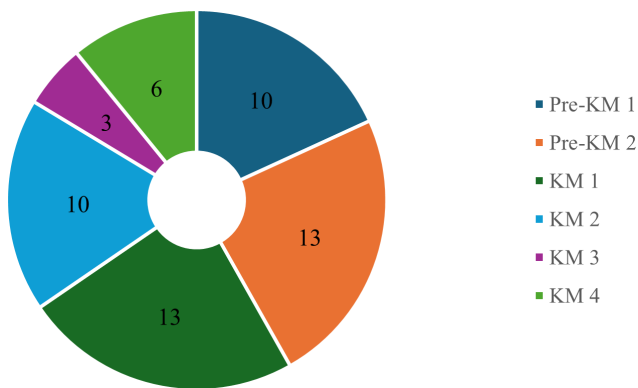


Figure 1. Respondent's grade. KM, Korean medicine school.

32.7% “satisfied.” No pre-KM1 or KM3/KM4 students reported dissatisfaction (Supplementary 2). The average satisfaction score across the volunteer satisfaction scale was 93.27 out of 105, with KM2 students reporting the highest satisfaction and KM1 students the lowest. Satisfaction scores varied widely when analyzed by both academic year and club affiliation, though no significant differences were observed when comparing clubs. KM4 students in Club BB, for example, had higher satisfaction levels than KM2 and pre-KM2 students in Club AA (Table 1).

4. Mental growth after medical volunteer work

Participants reported significant mental growth following their involvement in medical volunteer work. The highest average scores were recorded for self-identity (27.2/30) and social responsibility (26.2/30). Furthermore, 96.4% of students expressed a strong intention to continue volunteering during their time at school, and 83.6% planned to continue after graduation, indicating a strong commitment to ongoing engagement with voluntary activities (Supplementary 2).

5. Self-conducted pre-education

The most common form of individual preparation for medical volunteer work was “gaining knowledge or skills” (46.1%), followed by “considering one’s aptitude and role” and “establishing goals and practical processes” (16.7%). Only 1% of respon-

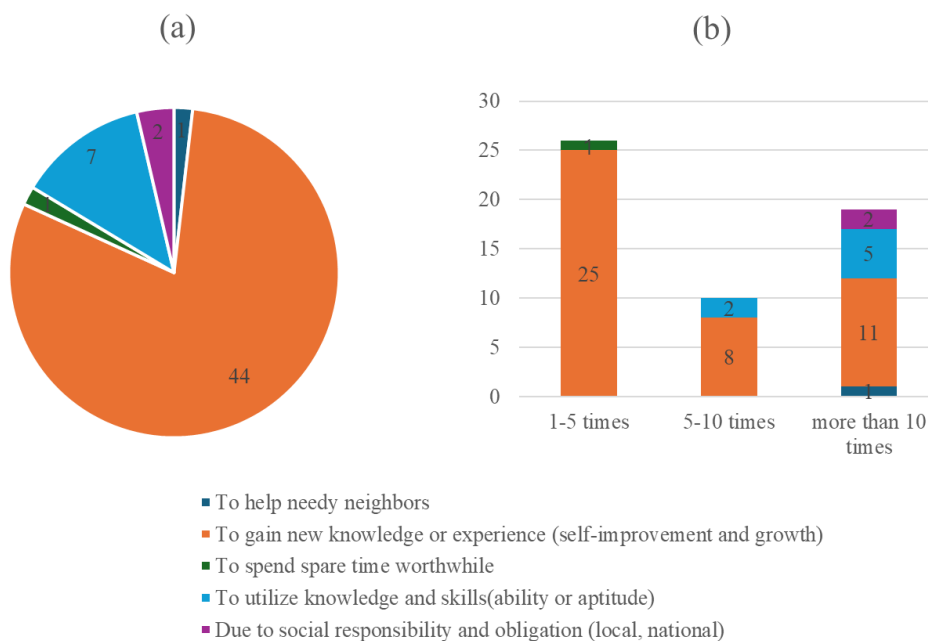


Figure 2. Motivation · purpose for participation, and their relationship to the number of times they participate. Out of the 55 respondents, (a) categorizes the number of times students participated in medical volunteer work into three groups: 1-5 times, 5-10 times, and more than 10 times. (b) Presents the motivations for participation in medical volunteer work, as indicated by the students in (a).

Table 1. Average of satisfaction score by grade and group (total score: 105 points)

Grade/group	AA (n = 24)	BB (n = 20)	CC (n = 10)	Total
Pre-KM 1	97.7	92.3	98.5	93.3
Pre-KM 2	101	92.4	87	93.5
KM 1	83.2	94.2	95	90.1
KM 2	98.3	86	88	96
KM 3	92	Not applicable	Not applicable	92
KM 4	89.5	97	85	90.5
Total	93.9	93.1	92.4	93.3

KM, Korean medicine school.

Table 2. Routes and contents of prior-training

Question	Response	N (%)
Whether respondents received pre-education	Yes	55 (100)
Path of the pre-education received	Pre-education conducted at the school level (classes, meetings with supervisors, etc.)	9 (16.4)
	Pre-training conducted by volunteer organization	1 (1.8)
	Lecture by senior members (in school) of the club	50 (90.1)
	Prior-training conducted by clinical Korean medicine doctors (including club seniors)	22 (40.0)
	Other ()	0 (0)
	No answer	4 (7.3)
Contents of the pre-education received	Academic knowledge related to medical volunteer	42 (76.4)
	Precautions for medical volunteer activities	48 (87.3)
	Introduction and promotion of medical volunteer institutions	5 (9.1)
	Roles and postures of medical volunteers	38 (69.1)
	Other ()	0 (0)
	No answer	3 (5.5)

dents reported having no prior preparation. All students had received formal pre-education, primarily provided by senior club members or clinical KM doctors, with only 10.5% of pre-education sessions offered at the school level. Despite this, 80% of respondents found the pre-education “very helpful” and 74.5% considered it “very necessary” (Table 2, Supplementary 2).

6. Areas for improvement in medical volunteer work

1) School-level improvements related to pre-education

In response to the question, “Do you think there is a need to improve regular school classes in terms of acquiring prior knowledge for medical volunteer work?” 37 respondents (67.3%) either agreed (21) or strongly agreed (16), suggesting a

strong belief that regular school classes should be enhanced to better equip students with the necessary knowledge for medical volunteer work. When analyzed by academic year, the proportion of respondents who agreed or strongly agreed was higher among KM1 and KM2 students compared to other years (Fig. 3a).

When asked, “What do you think should be improved in regular school classes related to medical volunteer work?” the most common suggestions were strengthening the learning of clinical concepts and theories (18 respondents), increasing practical training hours (16 respondents), and improving practical training that currently consists mainly of observation (7 respondents).

Four respondents mentioned a “lack of motivation to study,” while one suggested “enhancing education about patient com-

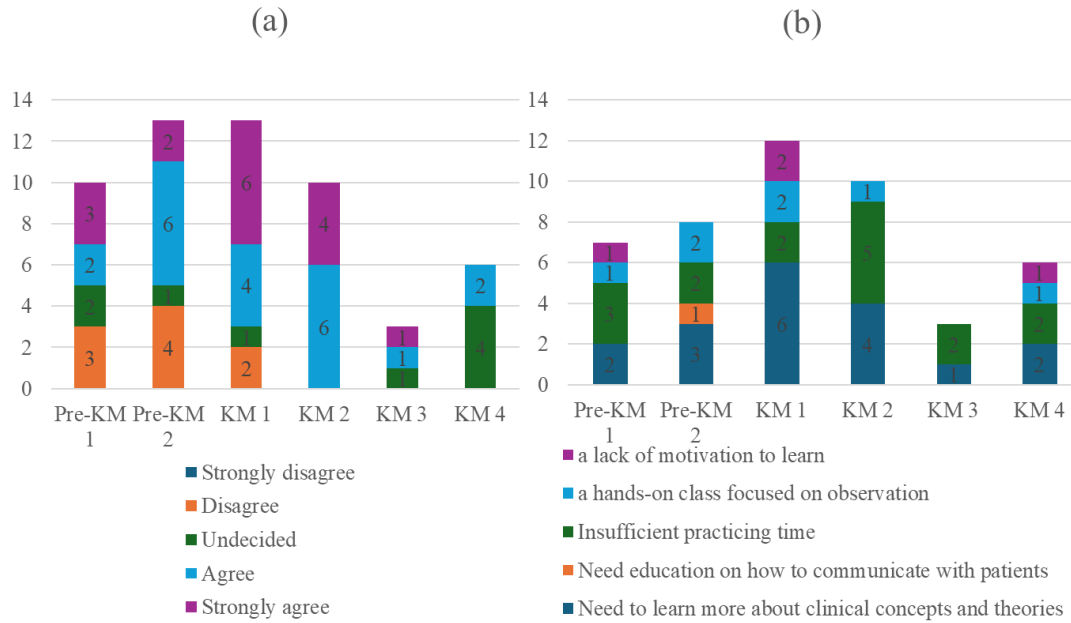


Figure 3. Out of the 55 respondents, (a) illustrates the distribution of responses regarding the necessity of improving regular classes, with options ranging from 'strongly disagree' to 'strongly agree.' (b) Highlights the aspects of regular classes related to medical volunteering that need improvement, based on the responses from the 46 students who selected 'strongly agree,' 'agree,' or 'undecided' in (a). KM, Korean medicine school.

munication." This pattern was particularly notable among KM1 and KM2 students, who had not yet undertaken clinical and practical subjects (Fig. 3b).

Regarding the subjects that should be emphasized in school classes to better prepare students for medical volunteer work, 21 respondents selected practical subjects, 19 chose clinical subjects, 10 opted for basic KM subjects, and five indicated basic Western medicine subjects. For curriculum changes, 42 respondents suggested that "practical clinical knowledge should be taught," eight suggested "increasing opportunities for practical training with professors," four recommended "expanding the number of class hours," while one respondent expressed satisfaction with the current system (Fig. 4, Table 3).

When analyzed by academic year, pre-KM2 and KM2 students preferred more clinical and practical subjects, while KM1 students preferred basic KM subjects (Supplementary 2).

2) Improvements beyond pre-education

In response to suggestions for improving and promoting medical volunteer work (Q16), the most common responses were "increased financial support" (19 respondents), "satisfaction with the current implementation" (11 respondents), "improving the environment at medical volunteer institutions" (8

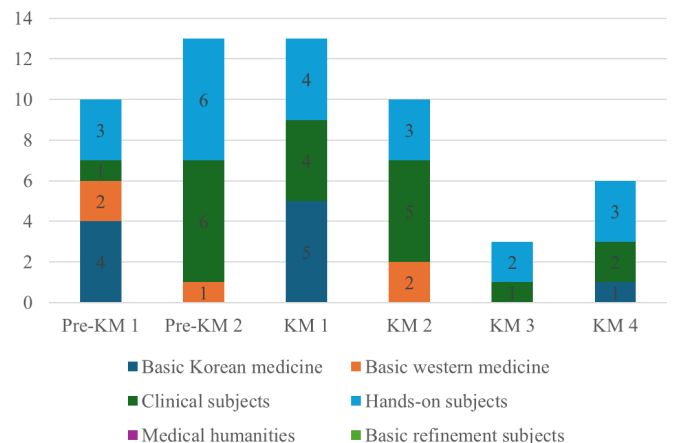


Figure 4. Subject to weigh in a regular class. KM, Korean medicine school.

respondents), "support for expanding treatment methods" (6 respondents), and "expanding opportunities to participate in medical volunteer work" or "ensuring continuity in participation" (5 respondents each).

When asked about the most important factors for sustaining participation in medical volunteer work, 36 respondents highlighted "satisfaction with medical volunteer work," followed by "provision of transportation and meal expenses" (29 respon-

Table 3. Subjects considered important in acquiring prior knowledge

Question	Response	N (%)
Important subjects in pre-education	Basic Korean medicine (meridian & acupuncture points, pathology, Shanghanlun, herbal formular, etc.)	10 (18.2)
	Basic Western medicine (immunology, Western medicine pathology, etc.)	5 (9.1)
	Clinical subjects	19 (34.5)
	Hands-on subjects	21 (38.2)
	Medical humanities (healthcare and ethics, professional expertise and career roadmap, Korean medicine and logic, medical sociology, etc.)	0 (0)
	Basic refinement subjects (logical thinking and writing, principles of psychology, etc.)	0 (0)
	Other ()	0 (0)
Suggestions for improving the pre-education	The proportion of class hours should be increased	4 (7.3)
	Practical knowledge related to clinical practice should be taught	42 (76.4)
	More opportunities to practice with professors	8 (14.5)
	More opportunities for discussion among students	0 (0)
	Satisfied with the current form of implementation	1 (1.8)

dents), “opportunities to participate in community activities” (17 respondents), and “more autonomous volunteer opportunities” (13 respondents). Additionally, 10 respondents cited the “kindness of managers at the medical volunteer institutions,” and five noted the importance of “maintaining close relationships with beneficiaries” (Supplementary 2).

7. Students' open-ended responses

Open-ended responses from 41 students revealed three primary themes: knowledge acquisition, school support, and emotional satisfaction. The majority of comments (58.5%) focused on the need for enhanced knowledge acquisition, particularly through practical experiences. In total, 13 students emphasized the importance of increased school support for volunteer activities, while 24% of respondents highlighted the emotional satisfaction gained from participating in medical volunteer work (Fig. 5, Supplementary 3).

DISCUSSION

This study addresses the identified research gaps through a comprehensive quantitative analysis of the volunteering experiences of 55 KM students. Unlike previous studies that primarily examined satisfaction metrics [6, 9], our research uniquely explores the interplay between motivations, satisfaction, mental growth, and the effectiveness of pre-education. A key contribu-



Figure 5. Word cloud on participants' free opinions. Note: Image created using <https://www.wordclouds.com/>.

tion of this study is our focus on pre-education implementation and its effectiveness, an aspect largely overlooked in the extant literature [4, 6, 9], despite its critical role in preparing students for meaningful volunteer work. By examining these elements within the specific context of KM, this study provides novel insights into how KM education could be more effectively integrated with community service activities.

The survey results revealed that the primary motivation for KM students to participate in medical volunteer work was the desire to gain new knowledge and experience. This suggests that, despite the challenges of studying KM, students maintain strong learning motivations [19]. Volunteering allows students to deepen their interest and knowledge in KM [9], gain clinical experience, and reflect on the competencies needed to become future practitioners [19], ultimately enhancing their professional skills [4].

Studies of medical volunteer work show distinct motivational patterns across different healthcare disciplines [1], while previous research on medical school volunteers suggests their activities often focus on developing specific clinical competencies, particularly in primary care settings [4, 20]. In contrast, our findings show that KM students view volunteering as an opportunity to integrate KM practices with contemporary healthcare needs, a significant distinction when examining the practical aspects of volunteer work. KM students experience a smaller gap between their volunteer activities and actual clinical practice compared to conventional medical students. The treatments they provide, such as acupuncture, moxibustion, and herbal medicine, closely align with their future professional practice [4].

This alignment creates unique educational opportunities that extend beyond clinical skill development to include holistic patient care. Additionally, the nature of KM treatments, which often require longer patient interactions and emphasize the practitioner-patient relationship, fosters the development of communication skills and emotional intelligence [21]. This may explain why participants reported significant mental growth and increased social responsibility through their experiences.

Overall satisfaction with medical volunteer work was high, with 90.9% of students reporting being either “satisfied” or “very satisfied.” However, a decline in satisfaction was observed as students advanced through their academic years, with pre-KM1 and pre-KM2 students expressing greater satisfaction than KM3 and KM4 students. This decrease could be attributed to a sense of boredom or redundancy in their work content due to repeated participation [6]. Satisfaction also varied depending on the club through which the students volunteered, corroborating previous research [6]. These differences likely stem from factors such as club operations, faculty support, pre-education structures, and member dynamics.

Participants scored highly in categories such as attitude change, social responsibility, self-identity, self-efficacy, and per-

sistence, aligning with studies that demonstrated the emotional and personal growth of students engaged in medical volunteer work [9]. High self-efficacy scores suggest that volunteer work positively influences students’ task performance abilities [22], strengthening their competencies as future KM doctors [4]. Moreover, most students expressed a willingness to continue volunteering, indicating the long-term positive effects of these experiences [6].

Despite these positive outcomes, however, the study highlighted shortcomings in pre-education for medical volunteer work. Although all students reported receiving some form of pre-education, the content was largely informal, typically provided by senior club members or through personal study via academic lectures, online courses, or books. Only 11.5% of students received formal pre-education from the school. Pre-education primarily focused on precautions (87.3%), academic knowledge (76.4%), and volunteer roles (69.1%), with minimal coverage of other critical elements, such as an orientation to the volunteer work site (9.1%). Based on these findings, we propose a more integrated approach to pre-education in KM schools, which could involve incorporating volunteer preparation into existing courses, developing specialized courses, or creating structured programs within free semester systems. Such integration would provide clinical preparation, foster community engagement skills, and reinforce the humanitarian aspects that are key to medical volunteering.

The relationship between the formal curriculum and medical volunteering presents both challenges and opportunities in KM education. While informal pre-education primarily focuses on clinical processes, highlighting gaps in the formal curriculum that students attempt to fill through peer-led preparation, some medical schools have successfully implemented structured approaches, such as facilitating a novel one-year longitudinal service-learning elective that includes both theoretical components (ethical considerations, community health principles) and practical training (clinical skills, communication techniques) [23]. Adapting similar models for KM education, while accounting for its unique characteristics, could enhance both the educational value and community impact of volunteer activities. Integrating such programs into regular curricula through free semester systems or career exploration initiatives could balance academic requirements with volunteer preparation, ensuring students receive institutional support for community service.

Previous studies suggest that pre-education should include

comprehensive training on the purpose, structure, and procedures of the work [12], as well as volunteer roles, necessary knowledge and skills, and precautions [13]. More systematic pre-education programs, potentially incorporating clinical simulations, medical accident prevention, communication training, and practical skills such as herbal medicine and acupuncture [9], would better prepare students for the complexities of medical volunteer work while still at school.

Regarding the regular curriculum, 67.3% of students indicated a need for improvements in school classes to better prepare them for volunteer work, with KM1 and KM2 students expressing the greatest demand. This aligns with prior research [24], which found that satisfaction with KM education decreases as students progress to the clinical years. Suggestions for improvement included strengthening clinical concepts and theories and increasing practical training hours, areas identified as high-priority in previous studies [24].

The survey results indicate students' strong desire for clinical knowledge, reflecting their commitment to providing optimal patient care. The emphasis on knowledge acquisition highlights students' recognition of their responsibility to develop the competencies necessary for serving vulnerable populations. The current informal pre-education system, which is primarily focused on clinical processes, reveals students' earnest desire to adequately prepare themselves before engaging with real patients, driven by their ethical obligation to provide safe and effective care to vulnerable populations [25].

Beyond pre-education, students expressed a desire for improvements such as increased financial support, better conditions at medical volunteer institutions, and expanded treatment methods. These findings mirror earlier research [26], which identified location and preparation as factors that negatively affected satisfaction levels. Furthermore, the sustainability of volunteer work has been linked to support systems and opportunities for students to apply their skills [26], suggesting that addressing these concerns could enhance both satisfaction and long-term participation in medical volunteer work [27].

This study has several limitations. First, while all participants were from the same university, differences in club operations, member characteristics, and variations across academic years, need to be considered when interpreting the results. Second, although many responses addressed academic growth through medical volunteer work, relatively few questions directly assessed the extent of this growth. Moreover, the reliance on multiple-choice questions limited the depth of the feedback on

students' experiences with the pre-education process and volunteer work. Finally, the questions regarding satisfaction and areas for improvement were based on general volunteer work scales, which may not fully capture the specialized nature of medical volunteer work. These limitations should be addressed in future research, building on the findings of this and previous studies [4, 6, 9].

CONCLUSION

This study surveyed 55 students from D University in Busan who participated in medical volunteer work through different clubs (AA, BB, CC). The primary motivation for participation was to gain new knowledge and experience, and 90.9% of the students expressed satisfaction with the volunteer activities. Participation led to positive outcomes such as enhanced social responsibility, self-identity, and persistence. Pre-education, mostly informal and led by senior club members, was deemed helpful, though 67.3% of students suggested strengthening formal education on clinical and practical skills within the curriculum. Future research should explore variations in participation and continue improving medical volunteer programs.

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ETHICAL APPROVAL

The data collection for this study was conducted anonymously to ensure that the identities of the participants could not be identified. Additionally, the survey consisted of items designed to evaluate the educational environment and achievements related to medical volunteer work by Korean medicine students. The study was exempted from the Institutional Review Board (IRB) of Dong-Eui University (Number: DIRB-202412-HR-W-69).

DATA AVAILABILITY

The data presented in this study are available from the corresponding author on reasonable request.

CONFLICTS OF INTEREST

Chan-Young Kwon has been an editorial board member of Journal of Pharmacopuncture since 2022 but has no role in the decision to publish this article. No other potential conflicts of interest relevant to this article were reported.

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SUPPLEMENTARY MATERIALS

Supplementary data is available at <https://doi.org/10.3831/KPL.2025.28.1.24>.

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