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Attitudes and experiences of traditional Korean medicine practitioners in cases of traffic accidents: A qualitative study

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ABSTRACT

Objective: The surge in vehicles has escalated traffic volume, leading to an upswing in traffic accidents and subsequent disorders. Complex symptoms often characterize post-traumatic syndrome from these accidents. Traditional Korean medicine (TKM), increasingly used in car insurance, forms a substantial part of treatment costs. However, the current system lacks explicit fee guidelines and approval criteria for non-reimbursable TKM procedures, relying heavily on practitioners' judgment without robust evidence-based decision-making. This scenario raises concerns about treatment appropriateness and transparency. We aim to explore physicians' perspectives on utilizing TKM in emergency medicine, their participation sentiments, and their session selection process post-traffic accident.

Methods: We collected TKM practitioners' opinions regarding their role in clinical environment and involvement in treating patients after traffic accidents. The need for comprehensive and standardized protocols for the diagnosis, treatment, management, and prognosis of patients with post-traumatic syndrome is evident. Additionally, improvements that facilitate rational decision-making by medical consumers and protect the treatment rights of healthcare providers are necessary. Results has emphasized the importance of evidence-based decision-making, establishing appropriate fee structures and detailed criteria for non-reimbursable TKM-based procedures, and enhancing regulations for the reliability and transparency of TKM-based treatments in the context of car insurance.

Results and conclusions: The perspective of healthcare providers directly involved in TKM-based treatments must be considered to maintain a sustainable vehicular insurance system, transcending administrative policy discourse. We highlighted the challenges and potential solutions for improving the effectiveness and appropriateness of TKM-based treatments in the context of car insurance.

1. Introduction

Advancements in modern industry and economic growth are reflected in the steady increase in the number of vehicles and traffic volume. Consequently, the rate of traffic accidents has also increased (Shin and Oh, 2013). In Korea, the anticipated yearly expenses related with traffic accidents in 2021 were over USD 23 billion, accounting for approximately 1.3 % of the gross domestic product (KoROAD, 2021). The management of injuries and the aftereffects of traffic accidents has grown in importance as these incidents generate major socioeconomic issues across the nations. Sequelae are a range of clinical symptoms that persist for a certain period after a traffic accident (Jung et al., 2009). Patients with post-traumatic syndrome owing to traffic accidents often exhibit complex symptoms; physically, they may exhibit varied pathologies, including fractures, joint dislocations, contusions, sprains, lacerations, disc herniation, and contusions (Song et al., 2007).

Patients in Korea have the freedom to choose between conventional medicine and traditional Korean medicine (TKM) for the treatment of post-traffic accident symptoms. Car insurance medical expenses by TKM drastically increased, from KRW 197.6.8 billion in 2018 to KRW 251.4

Abbreviations: TKM, traditional Korean medicine; WAD, whiplash-associated disorder.

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billion in 2022, according to the Vehicle Insurance Statistical Data from the Health Insurance Review & Assessment Service. Furthermore, there was a reported 12.01 % rise year-by-year in patients at TKM facilities as opposed to a 3.23 % decrease year-by-year at conventional medical institutions (Health Insurance Review Assessment Service, 2019). Although TKM practice guidelines and clinical reports for post-traffic accident symptoms are introduced, more standardized approaches should be met within the range of clinical evidences. Owing to the variety of diagnoses, treatment methods, and the various sequelae that appear depending on the severity of the post-traumatic symptioms caused by traffic accidents, a comprehensive and standardized treatment protocol should reflect the clinical environment and insights from TKM practitioners (Lim et al., 2018; Lee et al., 2011).

Previous study results indicating the views of the actual patient group that received treatment based on a grounded theoretical approach to the experience of TKM-based treatment for patients with post-traumatic syndrome from traffic accidents were announced (Lee et al., 2012). However, the perspective of TKM practitioners who directly treat patients as healthcare providers and use TKM for treating traffic accident victims has never been highlighted.

To fill this knowledge gap, the perspective of healthcare providers who treat post-traffic accident patients based on TKM should be explored. We aimed to learn more about how practitioners who treat using TKM value their role in primary care, their thoughts on participation, and how they decide to participate in sessions dealing with patients experienced a traffic accident.

2. Materials and methods

2.1. Study design

Using a qualitative methodology, we conducted focus group interviews at traditional Korean medical clinics in the Republic of Korea between July 2022 and August 2022.

2.2. Pre-registration of study

To comply with the research ethics and Declaration of Helsinki, approval by the institutional review board by Korea Health Promotion Institute (approval number: 2106-HR-032-02) was obtained in advance, and the interviews were conducted after obtaining written consent from the participants.

2.3. Research team

The research team comprised two academic and clinical practitioners of TKM (TY and JH) and a specialist in qualitative studies (BK).

2.4. Participants and recruitment

We were interested in speaking with traditional Korean physicians who practiced in the TKM facilities in Korea, which treat individuals injured in whiplash and traffic accidents. To facilitate open and free discussion and to access as many perspectives as possible, participants of the focus groups were carefully selected according to the following criteria. Invitation for interview and introduction on current survey were delivered via Potential mailing list were given by one TKM hospital upon agreement of institutional review board committee. Among 38 potential respondents, seven was finally decided to proceed a focus group interview. Selection criteria for TKM professionals included: working with patients on a daily basis, age distribution, gender, and equal distribution based on practice in urban/rural areas. Three respondents with one to two years of clinical experience constituted the interview group. One respondents with experience more than 10 years participated in interview groups. One of seven aged under thirties while two respondents exceeded sixties in their ages. Four of seven were male respondents and Three of seven were worked with urban area patients.

2.5. Running focus group interview

Drawing on research topics, the extant literature, and our clinical expertise, we developed an interview guide. The questions that were asked in the interviews are shown in Table 1. Subsequently, TY led the focus group interviews, and JH watched, recorded, and followed up with the questions. During the initial interview, BK watched and managed TY and JH.

2.6. Data collection and analyses

After each interview, JH and TY compared the field notes and continued to improve the interview guidelines. Every interview was audio-recorded, and TY later transcribed the recordings verbatim. After three interviews, data gathering was stopped because the preliminary analysis showed that we had amassed sufficient information to address our study question, and we began noticing similar trends. Thematic analysis, as outlined by Braun and Clarke, was used to examine the data (Choi et al., 2014).

Following each interview, the three authors reviewed the data to identify trends and significance. Thereafter, JH offered preliminary codes, that is, interesting data points, and the authors discussed the codes. These conversations helped TY create possible themes—groups of codes that made sense together. The topics were examined and debated. To confirm the ideas, JH returned and read each interview again. We identified and assigned topic names at the end of this procedure. The analysis and coding processes persisted throughout the study.

3. Results

The participants generously shared stories about professional vulnerability which they had perceived in clinical situations. Elaborated themes are demonstrated on Fig. 1.

3.1. Theme 1: Misunderstanding as an over-treatment provider

The primary focus of the initial theme is the misinterpretation of excessive medical treatment subsequent to traffic accidents, specifically regarding hospitalization. It underscores three key aspects: the misuse of the treatment system by a minority for personal benefit, the potential requirement for hospitalization to abbreviate the treatment duration even in mild cases, and the distinctive division of Korean healthcare into traditional and conventional medicine.

It is crucial to acknowledge that a system should not be dominated by a small faction exploiting it for personal gain. Rather, steps should be taken to diminish unnecessary medical expenses and forestall the exploitation of the system. Furthermore, the potential necessity of hospitalization, even in minor cases, is essential to prevent the elongation of the treatment period and potential long-term consequences. An economic assessment is advised to ascertain the most cost-effective approach, striking a balance between medical expenses and preventing the extension of the treatment period.

Lastly, the notable segregation of medical care in Korea, which prompts many traffic accident patients to opt for traditional treatments due to perceived limitations in managing post-traumatic syndrome within the existing dual medical system, should not be overlooked. Considering the greater accessibility of traditional medical services in Korea compared to other countries, it is challenging to apply foreign cases as models.

Hospitalization treatment after a traffic accident should not be pursued with the intent of taking rest, inflating treatment costs, or increasing settlement amounts. Even if some patients intend to misuse this system, the moral decay of a minority cannot be the measure that determines the existence of the treatment system itself. People intending to abuse the system exist everywhere,

Table 1
A list of questions asked in the focus group interview.

Does a traffic accident victim who visits a traditional Korean medicine clinic require hospitalization treatment? If so, what is the clinical significance?
What factors need to be evaluated during the initial assessment to determine the required treatment period for the patient?
In order for hospitalization treatment to have clinical significance for pediatric patients with traffic accident injuries who visit a traditional Korean medicine medical clinic, what different interventions need to be performed compared to adults?
What factors are considered when determining that the symptoms of a traffic accident victim who visited a traditional Korean medicine clinic have been resolved and the treatment can be concluded?
How is the impact of a underlying conditions or diseases on the current symptoms evaluated for a traffic accident victim who visited a traditional Korean medicine clinic?
What interventions are necessary through outpatient treatment for a traffic accident victim who visited a traditional Korean medicine clinic?
Is it appropriate to systemically limit the number of visits, treatment items, and therapeutic frequency of non-reimbursed interventions, despite the physician's medical judgment?

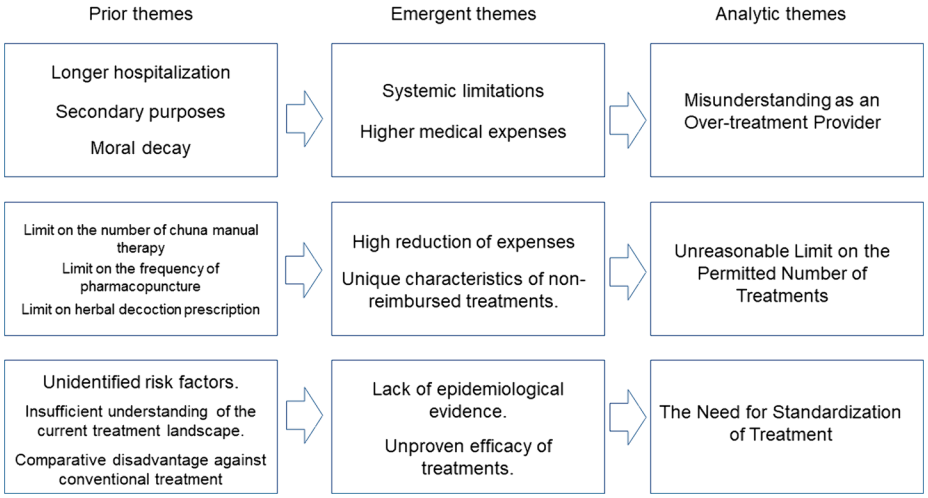

Fig. 1. Development of themes in framework analysis.

and the system can be changed to reduce or eliminate unnecessary medical expenditures.

Even in the case of patients with mild conditions after a traffic accident, there may be a need for hospitalization to shorten the treatment period. Despite the medical opinion that hospitalization is necessary, if inpatient treatment is not implemented, the outpatient treatment period may be extended, which can also act as a risk factor for prolonging the aftereffects. Those with a critical view of the fee-for-service system, where one can receive treatment indefinitely, argue that there should be a cap on medical expenses, following the example of foreign cases. I believe an economic evaluation should be conducted about whether it is less socially costly to limit medical expense outlays or to create a system that does not prolong the treatment period.

In Korea, where medical care is bifurcated into traditional and modern medicine, we should not overlook the fact that medical consumers seek benefits in one area that they cannot obtain from the other. Fundamentally, the reason why many traffic accident patients visit medical institutions using traditional medical treatments is probably because they feel there are significant limitations in managing their post-traumatic syndrome after a traffic accident in the existing bidirectional medical system. In any country abroad, there is no place where one can receive traditional medical services like in our country. In a situation where there are more options to shorten the treatment period than in other countries, it does not seem possible to apply foreign cases to our country as a model.

3.2. Theme 2: Unreasonable limit on the permitted number of treatments

This second theme highlights concerns regarding the unreasonable restrictions on the number of authorized treatments, particularly in TKM, for injuries sustained in traffic accidents. A key issue is the limited number of sessions allowed for chuna manual therapy, which often impedes the complete achievement of the therapy's objectives, despite its demonstrated effectiveness for sprains or strains resulting from traffic accidents.

The rigidity of the current system, which fails to recognize all medical interventions when chuna manual therapy and pharmacopuncture are administered simultaneously, poses another challenge. This occurs despite the distinct purposes of these treatments and the frequent occurrence of multiple sprains among traffic accident patients. The distinct goals of general acupuncture and pharmacopuncture necessitate adaptable treatment strategies. The failure to acknowledge the procedures performed can lead to prolonged hospital stays and increased medical expenses.

Furthermore, the deemed unreasonable 21-day maximum limit on the availability of herbal decoction prescriptions disregards factors such as symptom severity, underlying conditions, as well as individual risk factors like age and sex. To bolster public confidence in TKM post-traffic accidents, endeavors should be undertaken to raise public awareness about the therapeutic objectives of prescribed herbal decoctions and establish evidence-based guidelines for their usage.

It is undoubtedly helpful to use chuna manual therapy along with TKM to quickly improve sprains or strains caused by traffic accident injuries. However, the problem is that the number of sessions is limited. There are more cases where we inform the patient about the inability to perform Chuna Manual Therapy because all permitted sessions have been exhausted, even though we have not yet fully achieved the goal of the said therapy. We do this instead of stopping the technique before filling up 20 sessions after achieving the goal of chuna manual therapy.

Currently, when performing chuna manual therapy, only one acupuncture point is recognized per day of treatment, regardless of the diagnosis or injured area. In contrast, when the therapy is not performed, administering pharmacopuncture into two lesions is permitted. However, the goals of this therapy and pharmacopuncture are different. Given the characteristics of traffic accident patients, cases are not limited to mere pain in the neck and lower back. There are also many cases where multiple sprains occur in the small joints of the injured limb. Even if chuna manual therapy is conducted to manage these

symptoms, if pharmacopuncture is performed at the same time, all performed medical actions should be conceded.

The purpose of performing general acupuncture treatment and of performing pharmacopuncture differ, so there are cases where pharmacopuncture is not performed on patients with traffic accident injuries if it is not necessary. Conversely, in cases where hospitalization is necessary and acute care is received, if the acute symptoms after the injury do not improve within seven days of the injury, there are cases where pharmacopuncture treatment is required daily even after seven days from the day of injury. In the latter case, if the performed procedures are not conceded, the procedure on patients who need pharmacopuncture cannot be performed. This can lead to extended hospitalization periods and increased medical expenses.

It is unreasonable to uniformly set a maximum limit of 21 days for prescription availability for herbal decoction without considering the severity of symptoms post injury, whether there were pre-existing conditions that could affect the state after the injury, and risk factors, such as age and gender.

To date, there seems to be a lack of awareness among the public that prescribed herbal decoction should be taken for therapeutic purposes despite discomfort. If efforts are made to increase awareness about why it is necessary to take herbal decoction after a traffic accident and to establish evidence on which patients need or do not need herbal decoction, it could increase public trust in the TKM-based treatment received after a traffic accident.

3.3. Theme 3: The need for standardization of treatment

Respondents have long emphasized the critical need for establishing detailed and comprehensive assessment criteria specifically tailored for the inclusion of Korean medical treatments under car insurance coverage schemes. The primary concern raised by these medical professionals revolves around the current landscape, where a substantial number of TKM treatments remain unreimbursed due to the lack of clear, standardized guidelines. This situation not only hampers the accessibility of traditional Korean medical services for individuals involved in car accidents but also raises questions regarding the consistency and fairness of the reimbursement process.

To address these challenges, TKM practitioners are advocating for the development of robust and well-defined assessment guidelines. These guidelines would serve as a foundational framework to evaluate the eligibility and medical validity of TKM treatments for insurance coverage. The objective is to ensure that the treatments covered by automobile insurance are not only effective but also adhere to established medical standards. By doing so, it aims to eliminate the ambiguity currently surrounding the reimbursement criteria, thereby providing a clearer and more equitable pathway for patients seeking TKM treatments after traffic accident.

Furthermore, the establishment of such assessment criteria is seen as a crucial step towards integrating TKM practices into the broader healthcare system, recognizing their value and efficacy. It represents a move towards a more inclusive healthcare model that respects and incorporates diverse medical traditions, ultimately benefiting patients by providing them with a wider range of treatment options. This advocacy by TKM practitioners underscores the importance of adapting insurance policies to better meet the healthcare needs of the population, particularly in the context of traditional and alternative medical practices.

We need a system that can medically filter out patients who want to be hospitalized for secondary purposes when hospitalization is unnecessary. It is absolutely important to standardize the admission criteria for outpatients according to the level of evidence, tailored to the reality in our country.

From the perspective of a traditional Korean medical doctor performing therapeutic procedures, if there is a purpose and treatment plan for performing chuna manual therapy, even after receiving simple physiotherapy from conventional medicine, the patient should take the therapy. If this requirement for treatment is overlooked, the possibility of treatment decreases, and the treatment period lengthens. Of course, first, from the perspective of a traditional Korean medical doctor, unlike the physiotherapy performed by physiotherapists or the manual therapy used in conventional medicine, it would be necessary to prove the comparative advantage from a therapeutic perspective that Chuna Manual Therapy can have with proper evidence.

The symptoms and course of patients with traffic accident injuries vary, but the medical fees for pharmacopuncture claimed by traditional Korean medical doctors are all the same. This is despite the fact that not all traditional Korean medical doctors will use the same pharmacopuncture on outpatients. Standardization is needed to encourage procedures to be performed as needed for patients who require only a low extent of pharmacopuncture and those who require a high extent based on evidence-building from clinical data and diversification of medical fees based on these.

4. Discussion and conclusion

We collected opinions on the experiences, perceived limitations, and potential solutions of traditional Korean medical doctors who treat traffic accident injuries. We explored these problems and possible improvements in TKM.

Despite the increasing number of patients seeking TKM for traffic accident-related symptoms, there are several issues with the current system. For non-reimbursable TKM-based procedures, the fee structure and criteria for approval are not clearly defined, and these rely heavily on the practitioner's medical judgment without a solid evidence-based decision-making process. In the car insurance medical services market, where there exists information asymmetry between medical institutions and patients and strong demand incentives for healthcare providers, there is a need for systemic improvements to facilitate rational decision-making by medical consumers and protect the appropriate treatment rights of healthcare providers (Braun and Clarke, 2006). However, in ongoing discussions regarding the criteria for reimbursement of treatment expenses following traffic accident injuries, effective communication regarding the actual treatment methods employed by traditional Korean medical doctors is lacking (Park et al., 2022). This situation may lead to a perception from the insurer's standpoint that non-reimbursable TKM-based procedures are conducted in a regulatory blind spot and that the recognition of treatment appropriateness by patients is inadequate.

Based on the opinions collected through the interviews, there is an evident need to improve the transparency and appropriateness of TKM-based treatments for patients claiming car insurance through evidence-based decision-making. Specifically, it is necessary to establish appropriate fee structures and detailed approval criteria for non-reimbursable TKM-based procedures. Currently, when performing pharmacopuncture, traditional Korean doctors are required to specify the name of the drug used when submitting a treatment fee claim. However, this requirement serves more as a medical record, and owing to insufficient evidence, often results in the rejection of differentiated fee claims (Choi et al., 2013). In the case of injection administration, which is similar to pharmacopuncture, most drugs are classified as specialized interventions, and strict regulations and management are in place regarding the treatment criteria, such as proper indications, administration frequency, interval, and administrative methods (Kim et al., 2020). Moreover, for mild symptoms that do not involve fractures, the simultaneous administration of acupuncture and other non-reimbursable treatments is not considered universally appropriate because each intervention with different purposes should be substantiated with evidence.

To enhance the reliability of prescribed herbal decoctions, it is crucial to provide sufficient information about the duration, dosage, and administration period to achieve therapeutic effects as well as the types of potential adverse reactions. This will contribute to the improvement of related regulations based on evidence and ensure the reliability of prescribed herbal medications for patients with traffic accident injuries (Hwang and Jung, 2019; Bong et al., 2020).

When considering measures to reduce the overall treatment costs, punitive actions, such as reducing treatment fees for actual hospitalization, might not only result in insufficient treatment necessary for

patients but also lead to an extension of the overall treatment period and an increase in treatment costs. Therefore, it is essential to draw rational conclusions through economic evaluation (Jo et al., 2017).

In conclusion, to ensure the appropriateness of TKM-based treatments in the context of car insurance, it is necessary to establish fee structures and detailed criteria for the approval of non-reimbursable procedures. Furthermore, a legal basis should be established to enable the evaluation and formulation of assessment criteria for specific details that are difficult for health insurance reviews and assessment services to determine within the long-term treatment fee system.

5. Declaration of Generative AI and AI-assisted technologies in the writing process

During the preparation of this work the authors used grammarly (https://www.grammarly.com/) in order to language assistance. After using this tool/service, the authors reviewed and edited the content as needed and takes full responsibility for the content of the publication.

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CRediT authorship contribution statement

Tae-Yoon Kim: Writing – original draft, Project administration, Methodology, Investigation, Formal analysis, Data curation. **Jung-Hyun Kim:** Writing – review & editing, Methodology, Conceptualization. **Bonhyuk Goo:** Visualization, Validation, Software, Resources. **Byung-Kwan Seo:** Writing – review & editing, Supervision, Funding acquisition.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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