



Review Article

Traditional Indian medicine (TIM) and traditional Korean medicine (TKM): a constitutional-based concept and comparison

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ABSTRACT

Traditional and complementary medicine (T&CM) plays an integral role in providing health care worldwide. It is based on sound fundamental principles and centuries of practices. This study compared traditional Indian medicine (TIM) and traditional Korean medicine (TKM) basing on data obtained from peer reviewed articles, respective government institutional reports and World Health Organization reports. Despite the fact that TIM and TKM have individual qualities that are unique from each other including different histories of origin, they share a lot in common. Apart from Homeopathy in TIM, both systems are hinged on similar principle of body constitutional-based concept and similar disease diagnosis methods of mainly auscultation, palpation, visual inspection, and interrogation. Similarly, the treatment methods of TIM and TKM follow similar patterns involving use of medicinal herbs, moxibustion, acupuncture, cupping, and manual therapy. Both T&CM are majorly practiced in well-established hospitals by T&CM doctors who have undergone an average of 6–7 years of specialized trainings. However, unlike TIM which has less insurance coverage, the popularity of TKM is majorly due to its wide national insurance coverage. These two medical traditions occupy increasingly greater portion of the global market. However, TIM especially Ayurveda has gained more global recognition than TKM although the emergence of Sasang Constitutional Medicine in TKM is beginning to become more popular. This comparative analysis between TIM and TKM may provide vital and

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insightful contribution towards constitutional-based concept for further development and future studies in T&CM.

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1. Introduction

Traditional and complementary medicine (T&CM) plays an integral role in providing basic health care needs of the population.¹ WHO defines T&CM as the broad set of health care practices developed over a long period and may be used in conjunction with allopathic medicines for maintenance of health as well as in the prevention, improvement, diagnosis or treatment of physical and/or mental illness.² Over the years, various T&CM systems have played fundamental roles in the treatment and management of diseases throughout the World especially in Asian countries like China, Korea, Japan, and India where T&CM is well developed.³ Apart from TIM, the origin of East Asian medicine dates back to approximately 3,000 years ago in China.³ However, each country has over the years developed its own unique T&CM systems such as the traditional Chinese medicine (TCM), traditional Korean medicine (TKM), and traditional Japanese medicine (TJM).³ TKM in particular has a unique history, and it was the classified collection of the medical formulas, the *Euibang Yoochui* in 1477 that established the foundation and provided the most extensive database upon which it evolved to date.^{4,5} TKM uniqueness is due to the fact that it does not attempt to learn about the body by dissection or experimentation, but rather through careful observation of natural bodily functions as they appear in order to diagnose disease condition. It never limits the cause of a minor ailment to a local one, but examines the entire body to find the reason (s) for the condition.⁴ On the other hand, India has TIM. These are systems of medicine which are considered to be Indian in origin or those systems of medicine which have come to India from outside and got absorbed in to Indian culture.¹ There are basically seven recognized, distinctive system of medicines in India; Ayurveda, Unani Medical System (UMS), Yoga, Siddha System of Medicine (SSM), Homoeopathy, Naturopathy, and Amchi Medical System (AMS).^{1,6–8} Although Homoeopathy, UMS, and Naturopathy all have foreign origins, they were introduced in India centuries ago and have completely been assimilated in to the Indian culture and hence they are considered as part of TIM.¹

Over the years, the governments of India and Korea worked hard to promote and globalize their respective T&CM through a number of ways. In this review paper, we compared T&CM in the two countries based on histories of origin, physiology, pathology, diagnosis of disease, treatment of disease, the respective government roles in T&CM regulation, promotion, globalization, T&CM education system and its medical insurance coverage including of constitutional-based concept.

2. Methods

In this review, we modified the data search process used by Park *et al*,³ to obtain information on TIM and TKM from respective official government institutional reports, and other authoritative papers from databases of each country. Further data were obtained from original peer reviewed articles published in scientific journals. We carefully searched electronic literature databases including but not limited to PubMed, Scopus, Google Scholar and Science Direct for relevant records. The websites of WHO and other reputable organizations related to T&CM were also searched for related information. The data search on the two systems of medicine focused on the history, physiology, pathology, diagnosis methods, and treatment methods, T&CM regulations, education, and globalization. We used the following key search terms to obtain the information on TIM and TKM. (“Traditional Indian Medicine” OR “Ayurveda” OR “Unani” OR “Yoga” OR “Siddha” OR “Homoeopathy” OR “Naturopathy” OR “Amchi” OR “Traditional Korean Medicine” OR “Sasang Constitutional Medicine” OR “Asian Medicine” AND “History” OR “Physiology” OR “Pathology” OR “Diagnosis” OR “Treatment” OR “Regulations” OR “Education” OR “Globalization”). The data obtained were verified independently for their accuracy and any inconsistencies were settled through discussions between the authors. The final data obtained through discussions were then summarized, analyzed, and compared, and conclusions were made accordingly.

3. Histories of TIM and TKM

Recorded histories indicate that TIM and TKM developed at different times, (Table 1). Ayurveda, a major component of TIM developed around 1500 BC^{1,9,10} and its practices over the centuries led to the evolution of three major schools, including *Athreya sampradaya* (school of medicine), *Dhanwantari* or *Sushruta sampradaya* (school of surgery), and *Kashyapa sampradaya* (school of pediatrics and obstetrics).¹ UMS originated in Greece and was introduced to India around 377BC.¹ It is based on the principle that the human body is composed of four basic elements; Earth, Air, Water, and Fire which have different temperaments.⁹ Yoga is a 5000-year-old TIM that aims to create a disease free and strong body.¹¹ SSM mostly belongs to religious groups; the *Kayasiddhas* and this system of healing began in Tamil Nadu around 1600AD century but have similarities with Ayurveda.^{7,8} Homeopathy developed around 400BC^{1,12} and it is hinged on the doctrine of “like treats like” (*similia similibus curentur*). It is like an advanced form of vac-

Table 1 – Comparative characteristics of TIM and TKM.

CHARACTERISTICS	TIM							TKM
	AYURVEDA	UMS	SSM	AMS	YOGA	HOMEOPATHY	NATUROPATHY	
Approximate Year of Origin	1500BC ^{1,12,13}	377BC ¹	1600AD ^{7,8}	1116AD ¹⁴	2984BC ¹⁴	400BC ¹	1892AD ¹³	984BC ^{4,15,17}
Constitutional-Based Concept	YES	YES	YES	YES	YES	NO	YES	YES
Physiology	Tridoshas (<i>Vata</i> , <i>Pitta</i> and <i>Kapha</i>); based on five basic elements <i>Prithvi</i> (Earth), <i>Jala</i> (Water), <i>Teja</i> (Fire), <i>Vayu</i> (Air), <i>Akash</i> (Space/Ether) ^{1,12}	Body made up of four basic elements (Earth, Air, Water, Fire) and get nourishment from four Humors (blood, phlegm, yellow bile and black bile) ¹	Based on Tridoshas (Wind, Bile, and Phlegm) and five proto-elements (Earth, water, fire, wind, and ether/space) ^{7,8}	Based on Three “humours”; wind, bile, and phlegm ¹⁴	Based on union of a Person’s own consciousness and Universal consciousness ¹⁴	Based on Three principles (‘Similia Similibus Curentur’, ‘Single Medicine’ and ‘Minimum Dose’) ^{1,12}	Based on the theories of vitality, toxemia, Self-healing capacity of the body with the help of five great elements of nature – Earth, Water, Air, Fire and Ether) ¹³	The major physiological constituents are essence, spirit, qi, blood, fluid and humor. ⁴ The body structure is made up of five viscera and six bowels of interior, as well as the five agents and meridians. ⁴ TKM is balanced on the concepts of Yin and Yang and the Five elements theory (Wood, Fire, Earth, Metal, and water). ⁴
Pathology	Diseases occur due to loss of equilibrium between the Tridoshas ^{1,12}	Change in quantity and quality of the humors brings about a change in the status of the health of the human body ¹	Diseases occur due to imbalance between the Tridoshas ^{7,8}	Mental disturbances due to unhappiness affect the gastrointestinal tract, including the liver and pancreas, resulting in chronic health hazards ¹⁴	<i>Adhi</i> (the disturbed mind) is the cause of <i>vyadhi</i> (the physical disease) due to imbalances of <i>Tridoshas</i> ¹⁴	Diseases are caused by miasms.	Disease is caused by accumulation of morbid matter in the body ¹³	Disease causes are due to mental activity, lifestyle habits, and the environment or climate ⁴ Three types of disease mechanisms; the first is the insufficiency of healthy qi, the second is invasion by the exopathogen to interrupt the circulation of healthy qi, and third mechanism is abnormal Yin-Yang activity ⁴

Table 1 (Continued)

CHARACTERISTICS	TIM							TKM
	AYURVEDA	UMS	SSM	AMS	YOGA	HOMEOPATHY	NATUROPATHY	
Diagnosis	In a Patient; Ten-fold parameters are used in diagnosis (psychosomatic constitution, disease susceptibility, tissue quality, body build, anthropometry, adaptability, mental health, digestive power, exercise fitness, and age, in addition to pulse, urine, stool, tongue, voice and speech, skin, eyes and overall appearance) ^{1,8,12}	Examination of the pulse, urine and stool is the basis of diagnosis ¹	Eight anatomical features (Envagi thaervu) are used (Pulse, urine, eyes, voice, colour of body, tongue, touch and stool) in diagnosis ^{7,8}	Patients are diagnosed by Inspection, palpitation, and interrogation ^{14,20}	Auscultation, inspection, touch, posture ¹⁴	Homeopaths consider all of the patient's complaints in their diagnosis ^{1,12}	Physical examination (Pulse, temperature, blood pressure, weight); Tests (Stool, urine, blood and saliva) ¹³	Diagnosis is based on patient observation, auscultation, palpation and interrogation. ^{4,21}
Treatment of disease	Holistic and individualized having two components; preventive and curative which are both aimed at restoring the disturbed doshas. Herbal medicine pharmacopea are used in treatment. ^{1,12} Acupuncture ²²	Consists of three components; preventive, Promotive and curative. ¹ Cupping therapy ²³	Holistic and individualistic but with main emphasis on <i>Bala vahatam</i> (Pediatrics), <i>Nanjunool</i> (Toxicology) and <i>Nayana vidhi</i> (Ophthalmology) ^{7,8}	Therapeutic methods involve use of Moxibustion, acupuncture and ethno-medicinal formulations ^{14,22,24}	Practices (dhyana, <i>japa</i> , <i>tapa</i> , <i>pratyahara</i> , and <i>samyama</i>); a kind of meditation. <i>Pranayam</i> Yoga practice uses breath to cleanse the body and raise the <i>kundalini</i> while <i>hatha yoga</i> practices such as <i>asanas</i> and <i>surya namaskar</i> improves circulation of blood hence healing the body ¹⁴	<i>Materia medica</i> and repertories in their treatment of diseases and also use <i>nosodes</i> (Greek <i>nosos</i> : disease) made from diseased products such as fecal, urinary, and respiratory discharges, blood, and tissue. Homeopath also use healthy product remedies called <i>sarcodes</i> for treatment. ^{1,12}	Food, prayer, fasting, mud, hydro, colon, and massage, acupressure are used for treatment ¹³	Focuses on restoring body balance through therapeutic methods like use of herbal medicine, acupuncture, moxibustion, aromatherapy, meditation, massage, exercise, music, art and herbal acupuncture therapy. Preventive measures are key in TKM ⁴

Number of Universities teaching T&CM/per capita number of T&CM universities	57/23,277,220 ²⁵	12/4,208,661 ²⁶
Duration of study in medical curriculum	4–8 years ²⁵	4–7 years ^{4,26}
Number of T&CM Hospitals/No. of T&CM Hospitals per capita	3615/367,026 ²⁷	136/367,647 ⁴
Are there research Institutions for T&CM?	YES; Example is CRISM	YES; Example KIOM ²⁶
Insurance cover for T&CM	YES**	YES; by NHI
Year of insurance implementation on T&CM	No information	1987 ⁴
T&CM licensing body	Department of Indian Systems of Medicine and Homeopathy (AYUSH), Ministry of Health and Family Welfare, India ²⁸	Ministry of Public Health and Social Affairs, Republic of Korea ²⁹
T&CM Regulatory body	Department of Indian Systems of Medicine and Homeopathy (AYUSH), Ministry of Health and Family Welfare, India ²⁸	Ministry of Public Health and Social Affairs, Republic of Korea ²⁹
Year of implementation of Regulation	1970 ²⁸	1969 ²⁹
<p>CRISM: Center for Research on Indian Systems of Medicine. KIOM: Korea Institute of Oriental Medicine. Insurance: YES-Government covers insurance for T&CM. YES** No official T&CM insurance by Government but government employees use their health insurance to access T&CM therapy. Body constitutional concept: “YES” means human body is divided into different elements while ‘NO” means such body division does not exist. NHI: National Health Insurance.</p>		

cination; whereby a substance which is capable of producing a disease like state is administered to the patient, but in a very minute dose, to cure a similar disease or disorder in the sick person.^{1,12} Naturopathy originated around 1892AD in Germany¹³ and is the latest TIM to develop. It is a system of medicine built on the foundation that nature is the ultimate cure for any kind of malady in man.¹³ AMS practiced by the Amchi people; developed around 1116AD by the inhabitants of Ladakh in India and is based on the principle of the “three humours”-wind, bile, and phlegm.¹⁴ On the other hand, TKM originated through traditional Chinese medicine more than 3,000 years ago (Around 984BC).^{3,5,15} It has over the years evolved to suit the needs and characteristics of the Korean people.^{5,15} It gained its unique identity developing through the Goryeo and Joseon Dynasties (918–1392 and 1392–1910, respectively) to the present day.¹⁶ However, it was the establishment of *Euibang Yoochui* 1477 that provided a strong pillar upon which Hu Jun in 1613 published the comprehensive treasured mirror of Eastern medicine, the *Dongui-Bogam*, which became a standard *Haneuihak* textbook and remained Korea’s predominant medical system until 1894.^{4,15,17} Lee Je-ma (1838–1900) a TKM practitioner developed and propagated SCM which is currently a major feature of TKM.^{4,16,18} Its principle is based on classification of individuals according to four body constitutions; *chejil*; the Greater Yang (Taeyangin), the Lesser Yang (*Soyangin*), the Greater Yin (*Taeumin*), and the Lesser Yin (*Soeumin*).^{4,18,19} Additionally, SCM is based on “patient-centered” principle of operation.¹⁸

4. Physiology and Pathology in TIM and TKM

The concept of physiology and pathology play very important roles in T&CM practices. The physiology concepts in Ayurveda, SSM and Naturopathy are based on the five elements; earth, air, water, fire and space/ether. UMS physiology is based on four elements; earth, air, water, and fire. In SSM, AMS, and Ayurveda, the body is divided into three doshas (Humors) (Table 1). However, in Homeopathy, physiology is based on three principles (“*Similia Similibus Curentur*”, ‘Single Medicine’ and ‘Minimum Dose’).¹ The pathology of a disease in Ayurveda, SSM, AMS, Yoga and UMS depends on change or loss in equilibrium or imbalance of the four elements or Tridoshas or change in quality and quantity of humors of the body constitutions. These Humors govern and control the basic biological function of the body and any imbalance of any kind in them leads to a disease condition.^{1,12,14,30–32} However, in Naturopathy, disease is caused by the accumulation of morbid matters in the body. On the other hand, the primary physiological components of TKM are essence, spirit, qi, blood, fluid, and humor.⁴ From TKM perspective, the essence is the root of human energy and spirit is the cognitive system that enables independent activities for human body.⁴ The spirit and essence are both stored in the five viscera (liver, heart, spleen, lungs, and kidney) and hence represent the core system of the body.⁴ The essential qi (earth qi from food and heaven qi from oxygen) and blood are the entities that perform the internal functions of our bodies.⁴ Fluid and humor are the liquid in the body which become either qi or blood.⁴

It is important also to note that the basis of TKM is a balance with the Universe following the concepts of Yin and Yang and the five Elements (Wood, fire, earth, metal, and water).⁴ Therefore, TKM characteristically treats the founding principles of human body as equivalent to those of the universe and thus its physiology is based on the universal laws of nature. The pathology or cause of disease in TKM is classified based on mental activity, life style habits, and the environment that influences visceral activities to cause disease.⁴ In TKM, disease occurrence can be explained basing on three mechanisms; the first is the insufficiency of healthy qi; the second is the invasion by the exopathogens to interrupt the circulation of healthy qi; and the third is the abnormal Yin and Yang activity.⁴

The striking physiological similarity in both TIM and TKM is the concept of a human body consisting of elements earth, fire, and water.

5. Diagnosis in TIM and TKM

The diagnosis in both TIM and TKM is patient-centered following different methods (Table 1). Generally, the diagnosis methods in both systems of medicines are Auscultation, palpation, visual inspection and interrogation/inquiry. During palpation, the intensity, velocity, and pattern of the pulse are categorized into dozens of patterns.^{1,4,13} In TKM, palpation is used to determine how the circulation of qi inside the body is, and how this flow induces the relevant symptoms.⁴ Auscultation is used to determine a patient’s health status by listening and analyzing to his/her voice.^{4,21,32,33} Diagnosis by interrogation is used to determine the onset, development, treatment, present symptoms and other information of disease by questioning the patient or the person who accompanied the patient.^{21,32} The traditional doctor’s visual power also plays a very important role in disease diagnosis. This accordingly explains why disease diagnosis in T&CM is more externally based rather than internally based. Furthermore, examinations of urine, stool, tongue, touch, saliva, skin appearance and eye color in individuals are among the common diagnosis methods employed in both TIM^{7,32–38} and TKM^{4,21} systems.

As observed, despite the different origins of TIM and TKM, very similar methods of disease diagnosis are employed in both systems.

6. Treatment in TIM and TKM

Multidisciplinary approach to the treatment of diseases is what is employed in both TIM and TKM as summarized in Table 1. It involves the use of a number of therapeutic methods to treat a given disease condition with the main focus to restore the body balance. In both TIM and TKM, the medicinal herbs that are appropriate for the patient’s symptoms are carefully selected from among thousands of natural herbs and prescribed in form of decoctions, pills, or powder.¹⁸ The medicinal herbs are selected or excluded according to their compatibility or incompatibility to a specific person and condition. For example, in Ayurvedic, UMS, and SSM, the medicinal

herbs are distinguished by their effects on the three *doshas*.⁸ In TKM, herbal medicine prescription is guided by laid down principles of the sovereign, minister, assistant and courier and is based on qi and flavor theory as well as the meridian tropism of the crude drugs that make up the *materia medica*.⁴

Moxibustion is another therapeutic method which is shared by both TIM and TKM. This method is a preventive, remedial, and curative technique. Moxa is the material that is frequently used during therapies. It provides aromatic therapy and moderate heat therapy through heat transfer into the deeper layers of the skin hence bringing about healing effects.^{4,24} Just like moxibustion, acupuncture therapy method is used in both TIM and TKM although its use is more pronounced in TKM than TIM. This method is preventive, alleviative, or therapeutic against diseases in which a needle is inserted at a specific acupoint while taking into account the patient's posture and needle insertion angles.^{4,22,39} Additionally, both systems of medicine employ manual therapy (known as *Chuna* and *Qigong* in TKM) such as massage and exercise to stimulate the exterior of the body with the hands or with additional instruments to bring about cure and/or prevention of given disease or disorder.^{4,8,14} Cupping as a therapeutic method is well developed in both TIM especially in UMS and TKM. This therapeutic method involves transfers of the negative fluid pressure of air from suction by a vacuumed cup on the skin surface to various internal elements of the body to enhance healing.^{4,23} In TKM, the fundamental function of this therapeutic method is to relax the sinews and activate the collaterals.⁴

Despite the general similarities in therapeutic methods in TIM and TKM, the treatment methods employed specifically in Homeopathy is quite different to that in TKM. This is due to the fact that this system, relying on its doctrine of "likes treat likes" also uses *nosodes* (Greek *nosos*: disease) made from diseased products such as fecal, urinary, and respiratory discharges, blood, and tissue for treatment of diseases.⁴⁰⁻⁴⁴

Treatment of diseases and disorders in TIM and TKM are aimed at maintaining the balance of body structures and functions in order to restore harmony between the body and nature. The priority focus of TIM and TKM is more of disease prevention which is viewed as the most important step in the wellbeing of a person.

7. Role of Government in TIM and TKM Promotion

The Korean and Indian Governments have both played fundamental roles in the promotion of their respective T&CM (Table 1). The Government of the Republic of India has established 57 universities in which Indian systems of medicine are studied for a period of 4–8 years.²⁵ Beside the universities and colleges teaching T&CM, India also has a number of T&CM Research councils that carry out T&CM researches such as the Central Council for Research in Ayurveda and Siddha and other similar councils for Unani, Homeopathy, Naturopathy and Yoga.¹ The country has over 3,615 traditional hospitals.²⁷ TIM is fully licensed and regulated by Department of Indian Systems of Medicine and Homeopathy (AYUSH), Ministry of Health and Family Welfare since 1970.²⁸ AYUSH

continuously develop the recognized TIM and carries out regulations, scientific T&CM researches, and ensures appropriate standards for TIM.^{45,46} Similarly, the Government of Republic of Korea has established 12 universities in which TKM are studied for a period of 4–7 years.^{4,26,47} Besides the universities and colleges teaching T&CM, Republic of Korea also has a number of T&CM Research institutions such as KIOm that was established in 1994 as one of the leading institutions to promote scientific advancement, standardization, education and globalization of TKM.²⁶ KIOm has earned Republic of Korea global recognition due to its excellence in research⁴⁸ and is one of the leading WHO Collaborating Centers for T&CM. The institute continuously strives to utilize Korean medicinal resources to develop T&CM sector and improve public health.¹⁸ The Republic of Korea has over 136 traditional hospitals⁴ and its TKM is fully licensed and regulated by Ministry of Public Health and Social Affairs since 1969.²⁹

These efforts by the two countries evidenced by the number of hospitals set up, T&CM education systems and research institutions is a vital step taken to further develop T&CM and increase its usage locally and globally.

8. Globalization of TIM and TKM

TIM and TKM have gained steady international demand over the few decades. However, TIM especially Ayurveda still has an upper hand over TKM in the global market.^{18,49} The increasing global interest in T&CM has resulted in increased international exchange and collaborations. The increasing popularity of TKM in Korea and overseas is partly attributed to its unique system of SCM as more people are beginning to appreciate its effectiveness and the advantages that comes with its body-constitutional approach.¹⁸ Furthermore, Republic of Korean government has undertaken numerous globalization projects to enhance TKM scientific status.⁵⁰ For example, many TKM hospitals and clinics have been established in many oversea countries like Mongolia and Kazakhstan.⁵¹ This has resulted into increased numbers of foreign patients seeking treatment based on TKM systems. This over whelming demand in TKM Worldwide has spurred the Republic of Korean Government and academia to develop continuously new drugs, equipment, and theories in TKM to promote its use.¹⁷ On the other hand, TIM especially Ayurveda have evolved and spread around the world occupying a larger portion of the global market.¹⁸ The non-drug therapeutic approaches of TIM have been integrated into other healthcare systems, broadening the choices available to physicians and patients.³⁹ However, there are a number of challenges are still being experienced in the globalization of T&CM. For instance, despite the fact that T&CM tends to be easily accepted by the local inhabitants from where it originates, its acceptability especially by the Western world in most cases is only possible after objective validation⁵² through scientific studies confirming its safety and the effectiveness.⁵³ This rigorous screening has somewhat impeded the expansive globalization process of T&CM.

9. Limitations

This review has some limitations. During the review process we did not include unpublished information and hence our findings could be affected by a publication bias. Also, we might have missed studies or vital information published on sites other than those we focused on. Nevertheless, this review paper is very significant in that it clearly points out the valuable comparisons and contrast between TIM and TKM; a strategic pathway through which further T&CM policies and development can be achieved.

10. Conclusion

Comparative review of TIM and TKM indicates that despite the fact that both systems of medicine have unrelated origins, they have a lot in common. The two systems of medicines focus more on the individual rather than the disease and their therapeutic practices are geared towards disease prevention rather than disease treatment aimed at maintaining health and improving quality of life of an individual. TIM and TKM have continued to amicably coexist alongside conventional medicine to provide health care locally and globally despite continued challenges imposed by the latter. The overwhelming similarities existing between TIM and TKM may be due to the fact that the two countries have similar T&CM education systems and their geographical proximity could have played a role in T&CM information sharing over time. However, one major difference between TIM and TKM is the fact that TIM is highly diversified with seven recognized systems of medicine while TKM is more of a unified system of medicine which is currently based majorly on the principles of SCM. This comparative information between TIM and TKM, may be used as a basis for policy making and future research to further develop and propagate T&CM.

Conflict of interest

The authors declare no conflict of interest.

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