

Mitigating Barriers to Patient-centred Knowledge Sharing

A Case-study of Knowledge Sharing Problems in the Collaboration of Traditional and Western Practitioners in Chinese Hospitals

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Abstract: This paper reports a research study that aims to mitigate and overcome barriers to the sharing of patient-centred knowledge in the interprofessional collaboration of Traditional Chinese Medicine (TCM) and Western Medicine (WM) professionals in Chinese hospitals. This research adopted a Grounded Theory (GT) approach as the overarching methodology to guide the analysis of the data collected in a single case-study design. A public hospital in central China was selected as the case-study site, at which 49 informants were interviewed by using semi-structured and evolving interview scripts. Through the analysis of the interview data using GT analysis methodology, 11 KS barriers emerged. With a further conceptualisation of the KS barriers identified, it became clear that KS is mainly hindered by philosophical and professional tensions between TCM and WM practitioners. Therefore, in order to improve KS and mitigate the two types of interprofessional tensions, three strategies are proposed based on the findings of this study, namely: (1) formalising KS processes and exploring effective communication channels; (2) establishing specific interprofessional training schemes and programmes; (3) eliminating imbalances of professional power and statuses and creating conducive KS environment.

1 INTRODUCTION

Different from any other Nation in the world, the Chinese healthcare system uniquely incorporates two entirely different healthcare approaches, namely, Traditional Chinese Medicine (TCM) and Western Medicine (WM). TCM has been a consistent element of Chinese culture (Wong et al., 1993) and was developed based on the result of the accumulation of experiences and medical practices for over 2300 years (Cheng, 2000). Hyatt (1978) suggests that TCM is not just “folk” medicine, but a highly developed art and science. However, TCM lost the dominant position it had for thousands years over the Chinese public health systems to Western Medicine (WM) at the beginning of the twentieth century. Modern WM, based on the scientific paradigm and evidence-based practices, was developed in Europe and North America after the industry revolution and is largely considered as the

main component of today’s Chinese medical system, despite its coexistence with TCM (Chi, 1994).

The coexistence of the two healthcare philosophies and professional communities were initially formulated under a political decision made by Chairman Mao Zedong in early 1950s, immediately after the establishment of the People’s Republic of China (PRC). The original purpose of the political decision was to use a reformulated and systematised TCM as a strategic tool to distinguish the new communist China from its superstitious and feudal past as well as to illustrate the Chinese cultural heritage. Despite the political nature of the decision, many researchers (e.g. (Fruehauf, 1999); (Taylor, 2004); (Hyatt, 1978)) have claimed that it created conditions for a complementary relationship with WM. This relationship was unexpectedly very successful, since it unites and synergises the two types of professionals working cooperatively against a number of diseases deemed to be untreatable

solely by WM doctors (Taylor, 2004). The interprofessional collaboration of TCM and WM healthcare professionals gradually emerged as the central basis to the provision of healthcare services in today's Chinese hospitals.

However, the two professional communities, that sometimes operate in the same building, do not really co-exist harmoniously in the national healthcare system (Liu, 2003). This co-existence arose from the initial political decision, but it became very quickly apparent that simply putting the two communities together and expect them to work collaboratively was not without problems. In fact, each community have integral and very distinctive medical beliefs, diagnose and treatment methodologies. This careless integration of the two generated disbeliefs, distrust and disregard between the two communities and resulted in the problems of coexistence in Chinese hospitals today (Liu, 2003). In any case, regardless of any disagreements, dispute and problems of co-existence, it is politically decided that the two communities have to collaborate.

Since 2006, with the implementation of the patient-centred healthcare policy, an additional layer of political requirements was forced upon the TCM and WM collaboration. That is, the needs, requirements and benefits of patients must be constantly ensured and carefully protected throughout the processes of TCM and WM collaboration (Zhong, 2009); (Hu, 2009).

The provision of patient-centred healthcare service relies on effective and sufficient communication and knowledge sharing (KS) (Steward, 2001); (Maizes et al., 2009). Nonetheless, and in reality, TCM and WM professionals do not necessarily actively and voluntarily communicate and share knowledge with each other (Zhou et al., 2010); (Liu, 2003). In fact, there are barriers hindering the two types of professionals from actively engaging in KS (Sun, 2003); (Liu, 2003); (Zhou and Nunes, 2012).

Despite public awareness of the issues that emerged from the TCM and WM coexistence and a continuing debate on philosophical superiority, the KS problem between TCM and WM professionals has not been politically recognised and academically investigated. This paper presents, criticises and discusses the barriers to patient-centred KS between TCM and WM professionals. In addition, this paper proposes and discusses actionable strategies that can be employed by hospital management to improve interprofessional communication and KS in TCM and WM collaboration.

2 LITERATURE REVIEW

2.1 Duality and Complementarity of TCM and WM

Through several decades of exploration and negotiation, TCM and WM practitioners in Chinese hospitals have gradually accumulated and formed complementary relationships. In order to thoroughly explain the complementary relationships, it is necessary to understand the basic beliefs, base philosophies, and diagnosis and treatment methods of the two types of medicine.

TCM emphasizes on the integrity of the human body as whole and its close relationship with the environment (Cheng, 2000). According to the study of Ma (1999), traditional Chinese healing practice is intended to enhance the immune system of human body, antiviral effects, anti-inflammation, balance of mind and body, aches and pain relief, and cholesterol reduction. There are four main categories of Chinese medicine treatments, namely herbal medicine (oral intake and external use), heat therapy (moxibustion and cupping), massage (oriental massage, Gua Sha and magnets) and acupuncture (Sherman et al., 2005).

Conversely, WM employs a scientific attitude in treating patient problems (Dally, 2003). Unshuld (1985) claims that achievements from intensive and evidence-based fundamental scientific research have brought WM to an unchallengeable dominant position in world health care as well as in China. In fact, and despite the plurality, in the Chinese healthcare system WM takes the primary position being complemented by TCM as an alternative healthcare therapy. It is widely accepted in China that WM is more effective in the acute stage of many diseases and works much faster than TCM in treating these acute diseases (Ma, 1999). However, it is also acknowledged that WM creates more adverse side effects (Kaptchuk, 2000). Nevertheless, healing herbs, acupuncture, massage and other health methods from TCM may be more appropriate in health promotion, prevention, treatment, and rehabilitation. Moreover, TCM may be used as a last resort, when Western medicine is either too toxic or unable to provide any further expected benefit (Chen, 1989).

The main difference of Chinese traditional medicine in relation to its Western counterpart is its adoption of a holistic concept of healing, which emphasises the integrity of the human body as a whole and its close relationship with the environment (Cheng, 2000). In contrast, WM

doctors are more interested in localised diseases or illnesses and the corresponding part of the human body. WM practitioners aim at healing that specific part of the human body rather than the more general problems of the patients (Dally, 2003).

Moreover, TCM and WM have entirely different conceptual systems. For TCM doctors, the Yin-Yang theory is an ancient Chinese belief and way of understanding the universe and is the most essential theoretical foundation to the practice of TCM (Cheng, 2000). In contrast to TCM, which is based on Chinese ancient beliefs, WM is based on scientific paradigms and evidence-based research (Zhou and Nunes, 2012) and is a combination of modern science and the art of healing (Warrell et al., 2005).

Furthermore, the two types of healthcare methodology have completely different diagnosis methods. TCM doctors follow the ancient theory of Bian-zheng (distinguishing patterns) (Cheng, 2000), which can be generally defined as “the process of identifying the basic disharmony that underlies all clinical manifestation” (Maciocia, 1989: 175). To support the processes of Bian-zheng, TCM doctors apply four diagnosis methods to patients, namely “inspection”, “listening and smelling”, “inquiry” and “palpation” (Wang et al., 2004). Liu (2003) further points out that the TCM diagnosis mainly relies on the doctors’ professional experiences and personal understandings of Bian-zheng. In this case, it is very common for different TCM doctors to produce totally different diagnoses of the same patient (Liu, 2003). In contrast, WM professionals investigate the problems of patients and make decisions based on the identification of accurate medical evidence and the employment of modern diagnostic technologies, such as x-rays, laboratory tests, and computed tomography (CT) (Fitzgerald, 1990).

Finally, TCM and WM professionals have very different treatment approaches to dealing with patient problems. In the TCM methodology, there are four main categories of treatments: herbal medicine (oral intake and external use); heat therapy (moxibustion and cupping); massage (oriental massage, Gua Sha and magnets); and acupuncture (Sherman et al., 2005). These methods used by TCM doctors are often considered as too unusual by those WM healthcare professionals who are following the doctrine of modern medical science. To them, patient treatments can be simply divided into two categories, namely: medication and surgery (Goldman and Ausiello, 2008).

Liu (2003) asserts that WM is a hard science, whereas TCM is an empirical [soft] science. Even

though the two approaches are entirely different, the integration of the two healing beliefs into the Chinese healthcare system constitutes a unique therapeutic plurality, which is believed to be beneficial to patients, and which is only presented in the structure of the Chinese healthcare system.

The advantages and benefits of integrating TCM and WM services into a single healthcare system, as well as the implementation of complementary treatment have become evident. In any case, the complementarity and collaboration of the two types of healthcare professionals should be based on the communication and sharing of technical and patient knowledge with each other.

2.2 Patient-centred Knowledge Sharing

KS can be simply understood as the behaviour of making knowledge available to others (Ipe, 2003). In the healthcare environment, KS is defined as follows:

“Healthcare knowledge sharing can be characterised as the explication and dissemination of context-sensitive healthcare knowledge by and for healthcare stakeholders through a collaborative communication medium in order to advance the knowledge quotient of the participating healthcare stakeholders.” (Abidi, 2007: 69)

According to this definition, and considering the patient-centred TCM and WM collaboration, healthcare professionals need to share the following three types of patient knowledge:

- Technical Knowledge includes identification of patient conditions and problems, reasons and objectives of patient care, patient background, agreement to treatment strategy, and explicit patient requirements and needs (Smith, 1996).
- Ethical and Emotional Knowledge is about ethically dealing with patient feelings, emotions, and psychological status; approaches to communicating with, persuading and managing individual patients; and maintaining trusting and collaborative professional-patient relationships (Fennessy and Burstein, 2007).
- Social and Behavioural Knowledge is concerned with anticipating how others will behave, perception of patients’ implicit requirements, behaviours and reactions, and expectations (Fennessy and Burstein, 2007).

Among the three types of patient knowledge, the sharing of technical knowledge is the least problematic, since technical knowledge is easier to share and is usually recorded explicitly in the patient records. Moreover, the two types of healthcare professionals have adopted two entirely different therapeutic systems and each other’s philosophical

beliefs and technical insights do not seem to matter in the complementary provision of medical service (Guo, 2006); (Yang, 2005). On the other hand, the ethical and emotional knowledge and the social and behavioural knowledge consist of experiences and perceptions of individual professionals, which are accumulated through processes of dealing and interacting with individual patients. Therefore, when compared with the technical knowledge, these two types of tacit patient knowledge are more difficult and more important to share among healthcare professionals. Thus, this study focuses on these two types of tacit patient knowledge.

3 RESEARCH METHODOLOGY AND DESIGN

3.1 Research Questions

According to the main aim of this study, which is to identify barriers to sharing patient knowledge in TCM and WM collaboration, the following research question was formulated:

What are the barriers to sharing patient knowledge between healthcare professionals from Traditional and Western medicine in their patient-centred interprofessional collaborations?

In the light of the main research question, three specific research questions were established:

- What are the barriers that hinder the sharing of patient knowledge between TCM and WM healthcare professionals?
- What are the relationships between these barriers?
- What practical strategies can be formulated in order to improve KS?

The research questions were adopted to point a direction to the selection of research methodology, the research design as well as the collection and analysis of data.

3.2 Research Approach and Design

Since there are virtually no empirical studies that have been performed on the communication problems between TCM and WM professionals in Chinese hospitals, this study adopted an inductive approach and aimed at developing a new and contextualised theory. Therefore, a Straussian Grounded Theory (GT) was selected as the main research methodology, since GT is widely recognised as particularly useful for theory generation and development (Strauss and Corbin,

1998). In addition, in order to allow a theory to emerge from a suitable research context, GT was applied in a social context provided by case-study.

Moreover, considering China is one of the largest countries in the world, with a population exceeding 1.3 billion and with 56 ethnic groups and 34 provinces, it would be virtually impossible to generate a theory that would encompass the whole nation. Consequently, and since this project aimed at generating a first set of insights into this problem, a single case-study design was adopted. A public hospital in the city now city of Xiangyang (Xiangfan at the time of data collection), province of Hubei, was selected for the case-study. This hospital was chosen for two main reasons. Firstly, it provides both WM and TCM services to patients and has done so for several decades. Secondly, the researcher obtained guaranteed and management supported access to the informants and the project.

Furthermore, during the processes of data collection and analysis, it was observed that different departments in the hospital exhibited very different levels of integration of complementary treatments. This study therefore focuses on one specific department, namely the Department of Neurosurgery. This department has a proven history of using WM and TCM compound treatments for rehabilitating patients after craniotomies.

Semi-structured interviews were adopted as the data collection tool. Moreover, as required by the GT theoretical sampling strategy, interview participants were sampled by the emerging theory and interviewed using evolving interview question scripts. Overall, 46 informants were interviewed in a total number of 49 interviews. These informants were 27 healthcare professionals, 7 TCM professionals, 1 chief hospital manager, 1 hospital ICT manager, 1 TCM professor at local university, 1 healthcare politician in local government, and 8 patient relatives and carers.

As required by GT, the processes of data collection and analysis were operationalised interactively. That is, immediately after each individual interview, the collected data were transcribed and analysed. The analysis of data collected adopted two essential GT analytical tools, namely, coding (open, axial and selective) and constant comparative analysis. Consequently, data collection and analysis coexisted until the theoretical saturation was achieved, that is, until no new open codes emerged from the data analysis. The final theory saturated with 11 KS barriers.

4 RESEARCH FINDINGS

4.1 Process of Sharing Patient Knowledge

Through the processes of data analysis, it became clear that the interprofessional collaboration of TCM and WM professionals is considered as fundamental to the treatment of neurosurgical patients, since “more than half of our [neurosurgical] patients are using TCM treatments” (Interview WMD 2.72). As described by the interview informants, when dealing with patient problems, WM is employed as the primary methodology and was always used in the first instance. TCM methods are implemented as a complementary approach and are usually considered as more effective at the post-craniotomy and rehabilitation stages.

“Patient usually has some problems after the brain surgeries. These problems may lead to some serious sequelae. For these problems, patients can use TCM herbal medicine and acupuncture to assist rehabilitation after surgeries. TCM is not usually used before surgeries.” Interview WMD 20.15

Interprofessional collaboration and KS usually occur in consultation sessions, which are usually requested by a neurosurgeon, when a patient condition is perceived to be better treated by TCM doctors. The nurse in charge usually initiates the process at the request of the neurosurgeon and contacts the TCM doctors directly to make an informal enquiry. If the TCM doctor agrees his/her commitment, the neurosurgeon initiates a consultation note as a formal invitation for collaboration. The consultation note records a very brief description of all procedures and medical decisions that are made during the consultation session. After this consultation session, WM and TCM professionals never meet again to discuss that particular patient, unless in the case of emergencies. The consultation note must be signed by doctors from both sides and documented in the patient records.

As perceived, these consultation sessions could be a relatively good communication channel for KS, since they require the presence of professionals from both teams and to work collaboratively and interactively on specific health problems of a specific patient. However, the data collected reflect that these meetings in reality cannot be considered as a good communication channel and is fraught with barriers that hinder interprofessional communication and the sharing of patient knowledge.

4.2 KS Barriers

Through the data analysis, two categories of KS barriers were emerged, namely, philosophical barriers and professional barriers.

4.2.1 Philosophical Barriers

The data collected show that WM and TCM have completely different conceptual, philosophical and methodological systems. These fundamental differences in the philosophical roots of the two types of medicines have resulted in significant barriers to the sharing of patient knowledge. Specifically, five barriers emerged and were identified in the data analysis as follows:

1. *Different Conceptual Systems*: The KS problems between TCM and WM professionals are rooted in the basic concepts and beliefs of the two types of medicines. The data analysis revealed that, apart from a unified purpose to resolve patients’ problem, the provision of TCM and WM services are based on two entirely divergent systems, including differences in philosophical views, theoretical foundations, treatment and diagnostic approaches. This finding confirms that findings of the literature review.

“They [TCM doctors] have a totally different theoretical system, which we [WM professionals] do not understand. [...] Undeniably, there are a number of conflicts between the two theoretical systems, but their [TCM] methods are effective. Nevertheless, WM is probably more effective and as a WM doctor, I believe in our system. They believe in theirs. There are clear conflicts.” Interview WMD 9.25

These conceptual differences could cause conflicts of understandings of patient problems and requirements, and result in conflicts in actions aimed at solving patient problems and achieving patient requirements. These conflicts could hinder processes of interprofessional communication and prevent activities of sharing patient knowledge.

2. *Different terminology systems*: Upon the completely divergent conceptual and methodological systems, TCM and WM healthcare professionals have entirely different systems of terminology and use very different professional terms and jargon to describe and explain patient problems and requirements.

“[WM and TCM] have two terminological systems. Maybe both of them have an identical purpose, but how they express the purpose is entirely different.” TCM 15.35

Differences in terminology make KS particularly difficult, since TCM and WM professionals cannot understand each other’s language. Patient

knowledge shared by one side probably cannot be correctly received and fully comprehended by the other side. Therefore, the terminology difference is a KS barrier.

3. Conflicts of Philosophical Beliefs: During the interviews, TCM and WM healthcare professionals showed a consistent lack of belief in each other's practices. Many interviewed WM professionals not only expressed that WM is "purely scientific and superior to TCM" (Interview WMN 14.15), but also showed strong disbelief, distrust, disagreement and even discrimination against TCM. In fact, TCM philosophy and methodology was often harshly criticised as "unscientific" (Interview WMD 1.64) and useless "superstition" (Interview WMN 14.17). On the other side, TCM doctors strongly disagree that TCM is considered as inferior to WM. Many TCM doctors defended their methodology is a "solid medical methodology" (Interview TCM 4.9), which consists of a systematic and consistent set of diagnostic and treatment methods and which has been accumulating and revising through an evolution of thousands of years. Moreover, many TCM interviewees disagree with some of the WM beliefs and methods, which they asserted are not always appropriate and which sometimes have adverse effects on patients' conditions.

Evidently, the philosophical conflicts augments conflicts of opinions and perspectives of the two types of professionals, and have created a climate of distrust, disregard, and unwillingness to communicate in the two communities.

4. Inadequate Interprofessional Common Ground: The data analysis identified a lack of interprofessional common ground, which can be theorised as a knowledge base of overlapping interests and shared conceptual understandings. The research findings show that the lack of interprofessional common ground could result in philosophical conflicts and disagreements with each other's views and opinions, enhance untrusting relationships between the two medical communities, and thus is identified as a KS barrier.

"Communication, if without a knowledge basis, is impossible. For me, I can easily communicate with WM doctors, because I nearly learnt all WM knowledge. But if WM doctors do not learn TCM, they will never accept our philosophy." Interview TCM 6.72

5. Insufficient Interprofessional Education and Training: The inadequacy in interprofessional common ground, as indicated in the research findings, is probably resulted by a lack of interprofessional education in Chinese healthcare HE. Specifically, the healthcare HE structure in

China consists of TCM education and WM education, as two almost entirely isolated systems with very limited programmes, courses and modules designed and included focusing on the convergent areas of TCM and WM.

"We [WM professionals] only have a very basic understanding about TCM, actually very superficial. We only learnt something like the palpation, nothing else. Almost nothing learnt in medical school" Interview WMN 14.29

Moreover, the data analysis identified an absence of focus and exercises on hospital interprofessional training on the areas of convergence aiming at establishing mutual understandings between the two professional communities. Consequently, it is evident that, due to the insufficient interprofessional education and training, TCM and WM practitioners do not have a sufficient common ground to facilitate necessary interprofessional communication and KS.

4.2.2 Professional Barriers

Apart from the KS barriers emerged from the substantial divergences of TCM and WM philosophy, some professional issues were emerged as barriers to interprofessional KS. Specifically, the data analysis identified six professional barriers.

1. Asymmetrical Decisional Power: The data collected exhibit evidences of substantial asymmetries of positional power and professional standing of the two medical communities.

"If neurosurgical patients need acupuncture treatments, neurosurgeons would initiate a consultation note and telephone us. Then we go to treat patient with acupuncture. [...] In this process, we do not have decision power. For example, this patient clearly needs TCM treatment, but we cannot do anything about it, because neurosurgeons need to make this decision, not us." Interview TCM 16.17

As shown in data, for instance the quotation above, when collaborating with TCM doctors, WM practitioners have a relatively higher professional standing and almost complete control over patients. Comparably, TCM doctors possess a relatively lower professional standing and hold less power. Therefore, TCM doctors are most likely to maintain a passive position, avoid any confrontations and to follow instructions, instead of actively and voluntarily proposing their ideas, opinions and suggestions. For them, even if they intend to share knowledge, they have very little power or influence to have their views recognised. Therefore, it is a significant KS barrier need to be carefully resolved.

2. Overwhelmingly High Workload: As both witnessed in the field and reflected in data, both

types of practitioners were extremely busy and had very high workloads. A number of interviewees, therefore, informed that they are more concerned with “take care of patient [solving patient’s immediate problems]” (Interview TCM 15.45), rather than contributing time in interprofessional communication and KS. This also emerged as a KS barrier, since processes of sharing patient knowledge could be largely neglected.

“[In the consultation] usually they do not ask many questions, and we do not talk that much. We all are very busy. As long as we can treat the patient, that is all right. We all are too busy to actually sit down and to have a deep conversation.” Interview TCM 37.63

3. Rigid Problem-oriented Collaboration Approach: As identified in the data analysis, the sharing of patient knowledge is constrained and hindered by the adoption of an overly rigid problem-oriented approach to collaboration. In this approach, as long as those patient problems can be resolved, interprofessional communication and KS would be considered as not really important and as something that can probably be ignored, for instance a TCM and a WM informant stated that:

“(In WM and TCM collaboration) we do not need to know TCM theory and method. We just want them (TCM doctors) to help us to solve patients’ problems.” Interview WMD 48.12

“The reason why neurosurgeons invite us to join a consultation is that they want us to solve their problems. I don’t think they are trying to understand TCM or how we think of the patient.” Interview TCM 4.81

Evidently, this approach to collaboration is not an encouraging mechanism for sharing any form of knowledge.

4. Inefficient Communication Channels: As discussed in section 4.1, KS occur in consultation sessions, which could be perceived as useful vehicle for exchanging patient knowledge. However, as a communication channel, these meetings can only play a very limited role in real KS between the two professional groups. In reality, as expressed by a number of informants, the meetings last usually “no more than 10 or 20 minutes” (Interview WMN 7.119), in which “the diagnosis of the patient is presented by a WM doctor and then usually we [the visiting TCM doctor and the neurosurgeon in charge] need to have a brief discussion” (Interview TCM 4.92). This is of course not conducive to in-depth interprofessional discussions. Thus, the consultation meeting in fact becomes a formal handover of patients and not a vehicle for the exchange of patient knowledge.

5. Absence of Explicit KS Requirements from

Hospital Management: As shown in the data collected, even though the hospital management has been repetitively emphasised on integrating KS concepts and practices into the provision of healthcare services, “no specific requirements or guidelines have been formulated which explicitly demand interprofessional communication and KS” (Interview WMD 20.13). Therefore, professionals from both medical teams probably perceive that communication and KS are optional, not compulsory, and not important.

“If there are have some kind of regulations that WM and TCM teams need to adequately communicate and KS, practitioners are forced to do this. But, we do not have these requirement. It is like if you [a WM practitioner] do not talk with TCM doctors for ten years, no one would care about that and no one would criticise you. There is no supervision.” Interview WMD 1.83

6. Imbalanced Management Support: As reflected in the data, the hospital management provides more attention and support to WM departments, whereas the TCM department is not only less supported, but also could be discriminated by the hospital management and viewed as “secondary in the hospital” (Interview WMD 23.17). There are two reasons as point out in the data analysis: firstly, nearly all power figures in the hospital management team have WM backgrounds and hence would attach more attention and support on WM departments; secondly, and more critically, WM departments are much more financially profitable when compared with the TCM department. It is important to note that financial profitability became particularly important to the survival of hospitals in China after the implementation of Market Economy Policy, which determined that all hospitals are themselves responsible for all hospital operation expenses.

The imbalanced hospital support has exacerbated the already existing philosophical conflicts, encouraged interprofessional competition, augmented imbalances of power and distanced professional standings. Thus, professionals from both communities are not motivated and even unwilling to communicate and share knowledge with each other.

5 DISCUSSION AND CONCLUSIONS

With further distillation and conceptualisation of the findings, it became clear that the identified KS barriers have resulted in two types of interprofessional tensions, namely philosophical

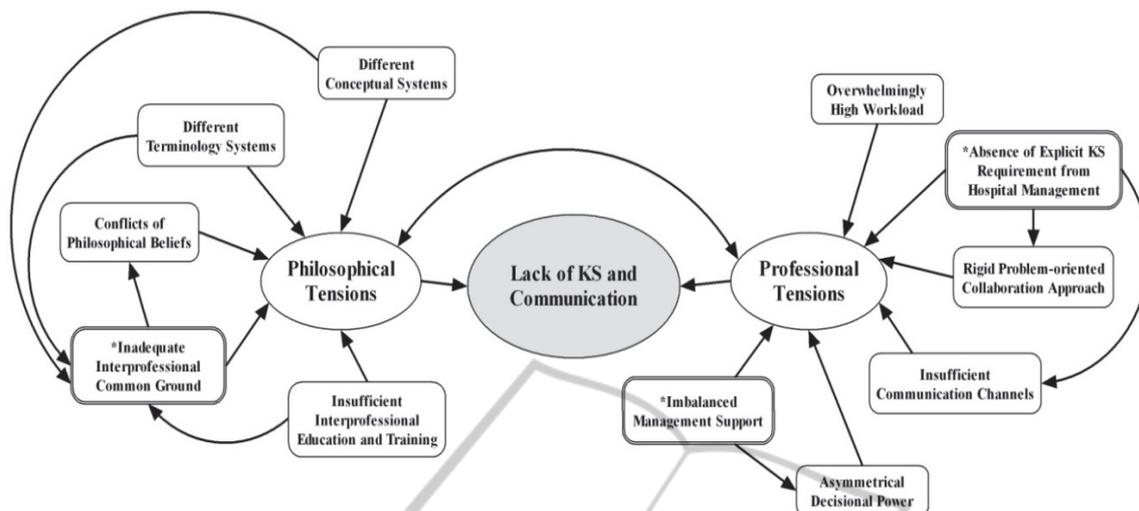


Figure 1: Philosophical and Professional Tensions as Main Barriers to KS between TCM and WM practitioners.

tensions, and professional tensions, which then emerged as the centres of the KS problems between TCM and WM practitioners.

- Philosophical tensions are caused by the substantial divergence in philosophies, theoretical grounds and conceptual systems of TCM and WM. These tensions have resulted in conflicts of opinions and perspectives, which in turn have created a climate of distrust, disregard, and unwillingness to communicate in the two communities. Additionally, the philosophical tensions are resulted by a lack of interprofessional common ground to facilitate communication and KS. The lack of interprofessional common ground is caused by lacking of interprofessional education in the Chinese healthcare education and by lacking of interprofessional training in the hospital environment.
- Professional tensions result from the substantial asymmetries of power and professional standings between the two medical communities. The data analysis clearly revealed that neurosurgeons have relatively higher professional standings and have almost dominant power over patients. Therefore, they often explicitly instruct and regulate TCM doctors on what to do with the patient. Comparably, TCM doctors have lower professional standings and hold relatively less power. Therefore, TCM doctors are most likely to maintain a passive position when collaborating with neurosurgical practitioners, avoid any confrontations and to follow instructions, instead of actively and voluntarily proposing their ideas, understandings and suggestions.

Moreover, the conceptualisation of the research findings included an analysis of the cause-consequence relationships between individual barriers. The result of the analysis can be illustrated in a concept map as shown in Figure 1. As shown in Figure 1, KS barriers are causes to philosophical tensions and professional tensions as two conceptual centres of the emergent theory. Furthermore, both types of tensions are interrelated and reinforce each other. Hence, to improve KS and communication between TCM and WM practitioners, efforts need to be put on mitigating and resolving the two types of interprofessional tensions. More specifically, to effectively resolve the two tension, it is necessary to examine individual KS barriers and establishing actionable strategies to mitigate the effect of each barrier.

In addition, as shown in Figure 1, three KS barriers are marked with “*”, namely, inadequate interprofessional common ground, imbalanced management support, and absence of explicit requirement from hospital management. These barriers are interlinked with others as either causes, or consequences. In this case, strategies should be developed targeting at these barriers. As reflected from the research findings, the following three strategies should be adopted and implemented by the hospital management:

1. To develop and reinforce the interprofessional common ground, the hospital management should establish very specific interprofessional training schemes and programmes. For both types of healthcare professionals, these programmes and sessions could increase mutual understanding, acceptance of each other’s

philosophy and beliefs, could enhance a better understanding of each other's professional terminology and, more importantly, effectively put in place an common ground to enable, facilitate and motivate interprofessional communication and KS.

2. In order to relieve the professional tensions, explicit management strategies should be formulated and implemented aiming at equally supporting TCM and WM communities, eliminate imbalances of power and professional standings and foster a harmonious hospital environment, which could be more conducive for interprofessional collaboration and communication.
3. It is necessary to formalise the process of interprofessional collaboration and formally define activities and processes of sharing patient knowledge. Moreover, there is a need to explore new communication channels and tools to facilitate the process of sharing patient knowledge, for instance and as reflected in data, patient records and consultation notes could be much better used and explored. Finally, as also identified during the process of data collection in the field, the hospital was under the processes of designing and implementing a new Information System. Therefore, there is the opportunity to create new communication platforms that can be developed within the hospital intranet and support better communication and KS.

Finally, it needs to be highlighted that these strategies must be fully supported by hospital managers and leaders in both medical communities, who should realise that the collaboration of TCM and WM is not just a political imperative, but may bring tangible benefits to patient welfare, through mutual trust between these complimentary medical communities.

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