Intention to apply rehabilitation exercises to patients in healthcare facilities in Vietnam

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ABSTRACT

The intention to adopt new methods is a topic commonly explored within the context of the technology acceptance model (TAM). TAM primarily focuses on assessing the perceived effectiveness and ease of use of these new methods, without directly comparing them to existing methods. This approach stems from the belief that the newly adopted method will be more effective than the existing one. Additionally, the influence of self-perception on individuals' decision-making processes and their inclination to accept new innovations is widely acknowledged. In light of these considerations, this article presents survey findings obtained from 438 healthcare service facilities in Vietnam, specifically targeting board members and rehabilitation doctors. The results reveal that the intention to implement rehabilitation exercises for patients in these facilities is significantly influenced by three main factors: (1) the perceived effectiveness of rehabilitation exercises compared to current methods; (2) the visibility of rehabilitation exercises in patient treatment; and (3) the perception of rehabilitation exercises' effectiveness in patient treatment. Furthermore, the self-identification of healthcare facility managers as either adhering to modern or traditional practices can either facilitate or hinder their intention to employ rehabilitation exercises in patient treatment, respectively. Based on these findings, the article puts forth several proposed solutions to enhance the intention to utilize rehabilitation exercises for patient treatment within the medical service facilities of Vietnam.

1. Introduction

The application of new scientific and technological achievements or new management and working methods is considered important for all industries and fields (Al-Rahmi et al., 2019). In order to constantly improve the organization's work performance and service quality, organizations need to constantly learn and apply new management methods and new working methods (Saoula et al., 2019). The ability to recognize and innovate is very important for organizations in applying new management methods and new working methods, it determines the competitiveness of the organization through the performance of the system (Abu Al-Rejal et al., 2020).

To study the intention to apply new management methods, and new working methods, a lot of studies use Davis's (1989) technology acceptance model (TAM), but it seems to focus only on perceived effectiveness, efficiency, and ease of use of the new system without comparing it with the existing system. Because it is obvious that organizations only accept to apply new management methods, new working methods when they feel that it is more effective than the old system. In addition, the application of TAM has been extended by some authors by adding new factors, but none of the authors have examined how the factors belonging to the decision maker's own perception have an impact affecting the perception of ease of use or the perception of efficiency and thereby affect the intention to adopt a new management method, a new way of working. Nevertheless, the factor of self-perception is a factor that has been confirmed to have a strong influence on people's decision to

accept new things or not (Mai et al., 2003; 2009). Recent research by Thao and Tu (2021) has mentioned the impact of the decision maker's self-perception on the perception of ease of use but has not mentioned the perceived effectiveness of the system. Therefore, different from previous studies, in this study, we further examine the impact of the decision maker's own perception of the perception of ease of use and the effectiveness of applying this new method and indirectly affect the intention to accept the application of new management methods, new working methods. We anticipate that this review will provide an overview of the application of the TAM model to studies on applying new management methods and new working methods of organizations.

In Vietnam, by the end of 2019, the whole country has a total of 13,640 public health service establishments, including 1,130 hospitals, 63 nursing and rehabilitation hospitals, and 11,083 commune health stations; regional polyclinics have been upgraded and reduced to 541, agency and enterprise medical stations reduced to 579 and other medical facilities to only 31. The establishment of non-public sector medical service facilities in our country has also increased rapidly from 133 hospitals in 2015 to 206 hospitals in 2019 (GSOV, 2019). However, in both systems, the treatment of patients often only stops at the level of medical onset without taking into account the physical recovery process, so many patients after recovering from the disease have a very long recovery time, even re-infection. Especially after the Covid-19 period, the situation of re-infection is very complicated and the damage to patients is great, but medical service facilities seem to ignore rehabilitation activities for patients, such as the provision of rehabilitation services, physical therapy, teaching physical education, yoga, meditation, etc.

Stemming from the above theoretical and practical issues, this study applies the TAM model and expands the model to consider some factors affecting the intention to apply rehabilitation exercises for patients in health service facilities in Vietnam.

2. Theoretical basis

2.1. Introduction to rehabilitation therapy for patients

The strong development of science and technology increasingly affirms the role of exercise in maintaining health and healing, especially in the current era, one of the basic functions associated with the activities of the body is often impaired due to diseases, birth defects, traumatic and postoperative sequelae. The application of rehabilitation exercises is a very effective measure to help patients. To shorten treatment time, and limit disability, the treatment process should adhere to some of the following principles:

- Requirements: (1) These measures must be applied early and at the right time; (2) The patients must be patient, continuously, and self-disciplined; (3) The level of requirements should be gradually raised from low to high, from simple to complex, from easy to difficult; (4) It is always necessary to combine whole body and local.
- Contents: (1) Movements and exercises; (2) Massage; (3) Use of movement games; (4) Use of assistive and orthopedic devices; (5) train the body by natural elements; (6) Occupational therapy and therapeutic activities
- Methods: (1) Medical examination and indications; (2) exercise planning; (3) How to choose and arrange movements in a training session; (4) Rehabilitation exercise based on mobility assessment; (5) Movement combined with physical therapy techniques.

2.2. Theoretical framework for system acceptance

The TAM has been applied in many studies on applying new management methods, new working methods, and at both individual and organizational levels (Davis, 1989). It is a new theory developed based on the theory of rational behavior (TRA) to explain any human behavior in general, including the behavior of accepting something (Ajzen, 1991). According to the rational behavior model (TRA), people's behavior derives from their attitudes toward that behavior. Therefore, the intention to perform the behavior is the best explainer of a certain behavior being performed (Ajzen, 1991).

Although TRA is a pioneering model in explaining human behavior, the TRA model still has limitations when it comes to accepting new things. Research by Ndubisi (2006) has shown that, although both TPB (extended model of TRA) and TAM explain intention to adopt the system, both the TPB (extended model of TRA) and TAM explain the intention to adopt the system, but TAM model explains better than TPB. Therefore, inheriting from the TRA model, Davis (1989) has developed a TAM to explain whether a person or an organization accepts a certain system (Tang et al., 2010). The intention to accept the system is influenced by the attitude towards that system (Davis, 1989). Two important components that Davis (1989) added to the TRA model to translate into the TAM are the perceived system efficiency and the perceived ease of use of the system.

After many revisions, the final TAM was proposed by Davis et al. (1989), in which the attitude factor toward the use of the system was no longer included in the model (Venkatesh and Davis, 1996). The authors also predicted that there would be many variables affecting the perceived effectiveness and perceived ease of use of the system. From this model, other researchers have suggested an extension of the TAM with four main development directions including Contextual factors; external factors that affect the perceived "effectiveness of the system" and

the perceived ease of use of the system; elements from other theories; and using other measurement tools (Marangunić and Granić, 2015). Over time, the application of the TAM has shown that it is a relatively flexible model and has been applied by research in a variety of fields ranging from individual decisions to individual decisions organizational decisions (Mortenson and Vidgen, 2016).

Due to the high applicability and suitability of this model for the purpose of studying the factors affecting the intention to apply rehabilitation exercises for patients at medical service facilities in Vietnam, the group of authors will use the final extended TAM to conduct research on this issue.

2.3. Intention to apply rehabilitation exercises to patients

According to Davis (1989), the intention to accept the system will determine whether an individual or an organization will use the system (Rauniar et al., 2014), this is an important factor in determining whether an individual or organization will use the system an individual or an organization using a system (Ong et al., 2015). Davis's (1989) concept of system application intention is derived from Fishbein and Ajzen's (1975) concept of behavioral intention in the TRA model and later TPB. Accordingly, the intention to accept the system is understood as the level of effort, of trying to accept the use of the system (Ajzen, 1991; Tang et al., 2010). The stronger the intention to accept a system, the higher the likelihood that an individual or an organization will accept that system (Ajzen, 1991; Ong et al., 2015; Sheikhshoaei and Oloumi, 2011; Tang et al., 2010). Whether a system is implemented or not depends directly on the intention to accept the use of the system and who decides to implement the system (Sheikhshoaei and Oloumi, 2011; Walker and Johnson, 2008). Intention to adopt the system is strongly influenced by perceived effectiveness and perceived ease of use and is almost not influenced by attitude towards the system (Hasan, 2007; Klein, 2007; Ndubisi, 2006; Walker and Johnson, 2008).

Thus, the concept of intention to apply rehabilitation exercises to patients in this study is understood as the extent to which the health service facility is willing and intends to make an effort to apply the exercises and practice rehabilitation to the treatment of their patients.

2.4. Factors affecting the intention to apply rehabilitation exercises for patients

1. Perception of the efficiency of the system: Some studies have confirmed that the perception of the effectiveness of a new system or a new method positively and strongly influences the intention to accept the system, such as the studies of Elbeltagi et al. (2005), Klein (2007), and Ndubisi (2006). In addition, there are many studies in different fields with similar conclusions (Brezavšček et al., 2014; Carr et al., 2010; Giovanni Mariani et al., 2013;

Tarcan et al., 2010; Walker and Johnson, 2008). In contrast, some studies have shown a low impact on this relationship (Hasan, 2007; Ong et al., 2015; Sheikhshoaei and Oloumi, 2011). Thus, the studies on the intention to accept the system in different professions have not produced really consistent results.

The intention of an organization to accept a system is influenced by the perceived effectiveness of the system, which has an emotional aspect. In the case of the existing system in use, the perception of its actual performance plays a role in shaping the intention to continue using that system. Similarly, when considering the selection of a replacement system, comparing the perceived performance of the new system with the actual performance of the old system will impact the intention to either continue using the old system or replace it with a new one (Xu and Quaddus, 2007). Therefore, despite the perception of the effectiveness of the new technology or the new management method, the new working method compared to the current one will be the factor affecting the intention to apply rehabilitation exercises to treat patients in medical service facilities in Vietnam.

From the above arguments, we propose the following hypotheses:

- Hypothesis H1a: Perceived effectiveness of rehabilitation exercises for patient treatment has a positive impact on the intention to apply rehabilitation exercises for patient treatment in healthcare service facilities in Vietnam.
- Hypothesis H1b: Perceived effectiveness of rehabilitation exercises for treating patients compared with current methods has a positive impact on the intention to apply rehabilitation exercises for the treatment of patients in health service facilities in Vietnam.

2. Perceived ease of use of the system: Several studies have confirmed that perceived ease of use of a system has a positive effect on acceptance of system use (Brezavšček et al., 2014; Elbeltagi et al., 2005; Hasan, 2007; Ndubisi, 2006; Tarcan et al., 2010)." However, some other studies found that perceived ease of use does not affect the intention to adopt the system at all (Klein, 2007; Ong et al., 2015; Walker and Johnson, 2008). In addition, some studies have shown a weak impact of perceived ease of use on the intention to adopt the system (Carr et al., 2010; Giovanni Mariani et al., 2013; Sheikhshoaei and Oloumi, 2011).

Thus, studies on this relationship still have certain controversies, therefore, we propose the hypothesis:

- Hypothesis H2: Perceived ease of use of rehabilitation exercises for patient treatment has a positive effect on intention to apply rehabilitation

exercises for patient treatment health services facilities in Vietnam.

3. One's own feeling: The sense of self comes from the idea that we all have visions of what we want. Self-perception has an influence on motivation to perform a behavior or perception of behavior (Markus and Wurf, 1987). In Vietnam and many Asian countries, people are often traditional and collective types, which influences how they make decisions (Arnould et al., 2004). Two types of self-perception modern and traditional can exist in each Vietnamese at the same time, and this will influence their behavior (Mai et al., 2003). Accordingly, the perception of oneself as a traditional person is the degree to which an individual's views are consistent with Confucian norms, values, and beliefs prior to the transformation of the Vietnamese economy. Perceiving oneself as a modern person is the degree to which an individual's views are consistent with the standards, values, and beliefs imported from developed countries after the transformation of Vietnam's economy (Mai et al., 2009). People who perceive themselves as modern tend to be more open to change, and more likely to be pioneers in shopping, choosing, and accepting new things. People who perceive themselves as modern are often younger, more educated… Meanwhile, people who perceive themselves as traditional are identified as people who are less inclined to accept new things, they are often not open to change, and they are often older and less educated.

Therefore, the authors predict that people who perceive themselves as modern ones will tend to feel more comfortable when exposed to the new system, here is the decision to apply rehabilitation exercises to treat patients of managers at health service facilities in Vietnam. In contrast, traditional people will find it more difficult to adapt to the new system. From there, we propose the following hypotheses:

- Hypothesis H3a: The perception of modern decision-makers has a positive impact on the perception of the effectiveness of rehabilitation exercises for treating patients in health service facilities in Vietnam.
- Hypothesis H3b: The perception of modern decision-makers has a positive effect on the perceived ease of use of rehabilitation exercises for treating patients in health service facilities in Vietnam. Vietnam.
- Hypothesis H3c: The perception of modern decision-makers has a positive impact on the perception of the effectiveness of rehabilitation exercises compared with current methods of treating patients at different hospitals and health service establishments in Vietnam.
- Hypothesis H4a: The perception of traditional decision-makers has a negative impact on the perception of the effectiveness of rehabilitation exercises for treating patients in healthcare facilities in Vietnam. Vietnam.
- Hypothesis H4b: The perception of traditional decision-makers has a negative impact on the perceived ease of use of rehabilitation exercises for treating patients in healthcare facilities in Vietnam.
- Hypothesis H4c: The perception of traditional decision-makers has a negative impact on the perception of the effectiveness of rehabilitation exercises compared with current methods of treating patients at health service facilities in Vietnam.

3. Research methods

From the theoretical basis presented above, we propose a research model on this issue as follows (Fig. 1).

3.1. Scales used in the study

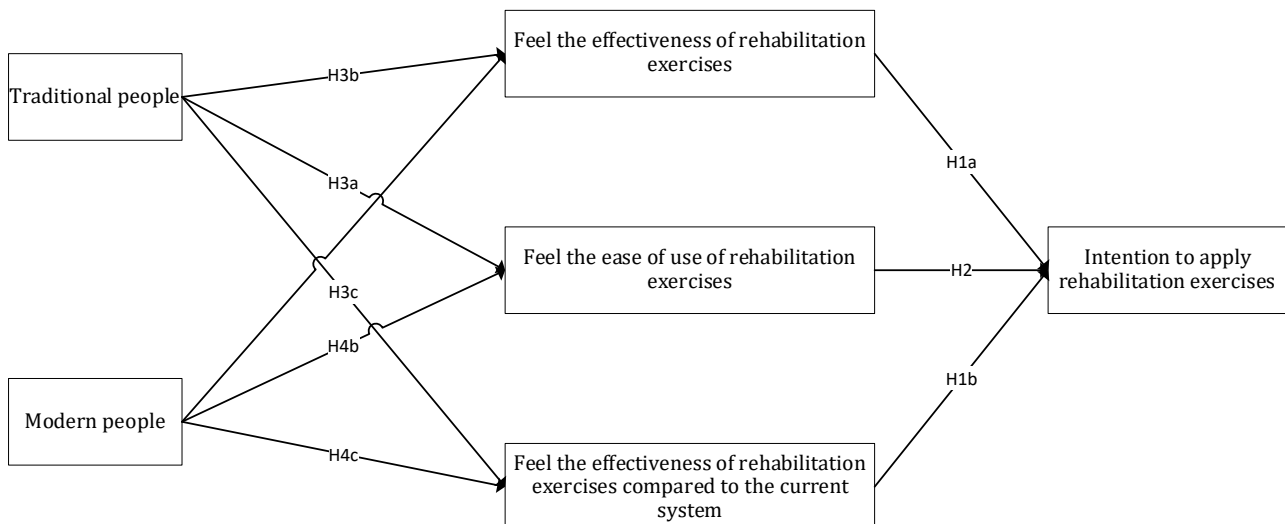The scale of the model is inherited from the study of Davis (1989) and is adjusted to suit the new context (Table 1).

Fig. 1: Research model of intention to apply rehabilitation exercises to treat patients in medical service facilities in Vietnam

Table 1: Summary of scales

Elements	Content	Source
The effectiveness of rehabilitation exercises	Applying rehabilitation exercises will allow treating patients more effectively Applying rehabilitation exercises will improve the quality of my hospital's patients Applying rehabilitation exercises will increase the recovery rate of patients at my hospital Applying rehabilitation exercises will improve the treatment efficiency of all parts of my hospital The application of rehabilitation exercises will help hospital departments do their jobs more easily I find rehabilitation exercises to be useful for businesses in treating patients	
The effectiveness of rehabilitation exercises compared to the current method	Applying rehabilitation exercises will allow hospitals to treat patients more easily than with current methods Applying rehabilitation exercises will improve the patient's health at my hospital better than current methods Applying rehabilitation exercises will make the recovery rate of my hospital's patients higher than current methods Applying rehabilitation exercises makes the work efficiency of the departments in my hospital higher than the current methods The application of rehabilitation exercises will help hospital departments do their jobs easier than current methods I find the rehabilitation exercises more helpful to my hospital than the current methods	Davis (1989)
Easy of use of rehabilitation exercises	Learning how to apply rehabilitation exercises is quite easy at my hospital I find it very easy to apply rehabilitation exercises for the purposes of my hospital The contents of the rehabilitation exercises are clear The contents of the rehabilitation exercises are easy to understand Rehabilitation exercises are very flexible to apply Rehabilitation exercises are very easy to grasp and apply In general, I find rehabilitation exercises easy to apply	
Traditional people	I always try to live a frugal life I feel the need to be cautious when buying and using new products I like to use traditional products For me, it's important to respect other people's opinions about myself For me, it is important to observe and preserve traditional values in social relationships	Mai et al. (2009)
Modern people	I like people who dress in a modern and fashionable way I think it's important to enjoy life happily I like the modern lifestyle I love trying new products I think the changes add excitement to life	
Intention to apply rehabilitation exercises	I will apply rehabilitation exercises to treat patients at my hospital in the near future I tend to apply rehabilitation exercises to treating patients at my hospital I plan to apply rehabilitation exercises to treat patients at my hospital	Ong et al. (2015)

3.2. Research data

The study mainly used primary data based on a survey of 438 health service providers in Vietnam about the intention to apply rehabilitation exercises for the treatment of patients at the hospital. The sample size was calculated according to the sampling formula of Hair et al. (1998), for EFA analysis, whereby, for each analyzed variable, a minimum of 5 observations or 10 observations is required. Therefore, with a total of 32 observations for 6 factors in the model, the minimum number of survey samples needed is 160 votes or better, 320 valid votes. We distributed 450 questionnaires to 450 health service facilities spread across Vietnam in the months of June, and August 2022 by means of non-probability random sampling and asking questions on managers, senior managers of these units through sending questionnaires directly or via email. As a result, 450 questionnaires were collected, of which 18 questionnaires were invalid due to incomplete information or the respondent was not the person in charge of the management of the medical service facility. Thus, with a valid number of votes of 432, representing 432 health service facilities in Vietnam (>320) satisfying the conditions to conduct exploratory factor analysis EFA, affirmative factor analysis CFA, model estimation by SEM, and highly representative structural equation to ensure reliable research results.

EFA analysis results with the principal axis factoring method with Promax rotation and breakpoint when extracting factors with an eigenvalue equal to 1 used for factor analysis with 32 important variables. The results showed that the KMO coefficient reached 0.880 with the Sig value = 0.000 and eigenvalues reached 69,060 at the factor stop of 1.38. The results of the rotation matrix also show that the research scales converge on 06 factors consistent with the proposed research model.

The results of testing the reliability of the concepts and research scales show that Cronbach's Alpha coefficients of the factors all reach values greater than 0.7, so the scales used in the study are appropriate.

The results of CFA confirmatory factor analysis for these scales have 449 degrees of freedom (df=449). The results of the CFA test show that the model is compatible with the research data set: Chi-square=1042,351 (p=000); cmin/df=2.321; CFI=0.933; GFI=0.874; TLI=0.926; and RMSEA=0.055. The normalized weights of the observed variables are all greater than 0.5 and the abnormalized weights of the variables are statistically significant, so the convergence value of the scales can be confirmed. The correlation coefficients of the concepts are all less than one unit, so the concepts gain discriminant value. The measurement model is suitable for the research data

set, there is no correlation between the measurement errors, so the unitarity is achieved.

Thus, the research data set satisfies the electrical conditions to include in testing the linear structural model on the relationship of intention to apply rehabilitation exercises for patient treatment at service facilities. health services in Vietnam and the factors influencing this intention.

4. Results and discussion

4.1. The results of model testing by linear structural equations

The test results of the critical model have 454 degrees of freedom (df=454). The SEM test results show that the model achieves compatibility with the research data set with the values, Chi-square=1073,178 (p=000); cmin/df=2.364; CFI=0.931; GFI=0.871; TLI=0.924; and RMSEA=0.056.

The impact of factors affecting the intention to apply rehabilitation exercises for the treatment of patients in medical service facilities in Vietnam has the estimated results of the model for the value $R^2=0.298$, which means that there is a 29.8% change of intention to apply rehabilitation exercises for treating patients in health service facilities in Vietnam affected by the factors in the model. The factor "Perceived effectiveness of rehabilitation exercises compared to current methods of treatment for patients" has the strongest impact with a standardized Beta coefficient of 0.392 and at a level of 0.392. statistical significance 99% (P_value=0.000); ranked second is the factor "Feel about the ease of use of rehabilitation exercises for patient treatment" with a standardized Beta coefficient of 0.296 and at 99% statistical significance (P_value=0.000); The lowest factor is the factor "Perception of the effectiveness of rehabilitation exercises for patient treatment" with the standardized Beta coefficient of 0.188 and at 99% statistical significance (p-value=0.000).

On the other hand, when considering the impact of the traditional or modern self-perception factors of managers at health service facilities in Vietnam, how do they affect the "perception of ease of use?" use of rehabilitation exercises for the treatment of patients" gives the result, R12=0.314, that is, there is a 31.4% change of "Perceived ease of use of rehabilitation exercises" function for treating patients" is explained by the self-perceptions of managers at health service facilities. In particular, if the managers at medical service facilities perceive themselves as modern people, it will have a positive impact on the "Perception of the ease of use of rehabilitation exercises for patient treatment" with a standardized Beta coefficient of 0.488 and at 99% significance level (P_value=0.000). However, if managers in health service facilities perceive themselves as traditional people, it will have a negative impact on the "perception of ease of use of rehabilitation exercises for patient treatment" with a standardized Beta coefficient reaching (-0.243) and 99% statistical significance level (P_value=0.000).

The study also shows that "Perception of the effectiveness of rehabilitation exercises for treating patients in medical service facilities in Vietnam" is influenced by the manager's personal perception of the hospital medical service facilities. Accordingly, if managers at medical service facilities perceive themselves as modern people, it will have a positive impact on "Perceptions of the effectiveness of rehabilitation exercises for treating patients at health service facilities in Vietnam" with a standardized Beta coefficient of 0.299 and at the 99% statistical significance level (P_value=0.000), and if managers at health service facilities feel that they being a traditionalist will not affect "Perception of the effectiveness of rehabilitation exercises for treating patients in medical service facilities in Vietnam" due to P_value=0.923.

Finally, the perception of managers in health service facilities as traditional or modern people did not affect "Perception of the effectiveness of rehabilitation exercises compared with other methods of rehabilitation currently treating the patient," because the P_values of both factors are greater than 0.05.

The estimated results of the main parameters in the theoretical model are presented in Table 2. The estimation results show that all hypotheses H1a, H1b, H2, H3a, H3b, and H4a are accepted with statistical significance above 99%, while hypotheses H3c, H4b, and H4c are rejected. As follows:

Table 2: Normalized model estimation (SEM) results

No.	Relationships between concepts			Normalized estimation	Abnormalized estimate	Standard deviation	Value (t)	Value (p)
R² of intention to apply rehabilitation exercises to treat patients in healthcare facilities in Vietnam=0.298								
H2	Inten	<---	Easy	0.296	0.419	0.070	6.019	0.000
H1a	Inten	<---	Eff	0.188	0.294	0.076	3.867	0.000
H1b	Inten	<---	Comp	0.392	0.619	0.081	7.643	0.000
R1² of Perceived ease of use of rehabilitation exercises for treating patients in healthcare facilities in Vietnam=0.314								
H3b	Easy	<---	Mod	0.488	0.426	0.042	10.139	0.000
H4b	Easy	<---	Trad	-0.243	-0.144	0.028	-5.129	0.000
R2² of Perceived effectiveness of rehabilitation exercises for treating patients in healthcare facilities in Vietnam=0.09								
H3a	Eff	<---	Mod	0.299	0.237	0.041	5.804	0.000
H4a	Eff	<---	Trad	-0.005	-0.003	0.028	-0.097	0.923
R3² of Perceived effectiveness of rehabilitation exercises compared with current methods of treating patients in healthcare facilities in Vietnam=0.001								
H3c	Comp	<---	Mod	0.011	0.009	0.041	0.218	0.828
H4c	Comp	<---	Trad	-0.036	-0.019	0.029	-0.656	0.512

4.2. Discuss the results

From the results of the model, we make the following observations. Firstly, the intention to use rehabilitation exercises for the treatment of patients in healthcare facilities in Vietnam depends heavily on the "Perception of the effectiveness of rehabilitation exercises compared to current methods of treating patients" and "Perception of the effectiveness of rehabilitation exercises," both with Sig value=0.000<0.05 and standardized β coefficient of 0.392 and 0.392 respectively. 0.188. This result is similar to some studies, such as the study by Al-Mamary and Shamsuddin (2015) on the intention to accept and use technology in Yemeni telecommunications companies, the normalized β coefficient is 0.49, p<0.05; Research by Rauniar et al. (2014) on the intention to use the Facebook social network of 389 students at universities in the US, standardized β coefficient is 0.62, p<0.001; Research by Ong et al. (2015) on the intention to maintain the quality management system ISO9000 on a sample of 216 companies in Singapore, standardized β coefficient is 0.124, p<0.001. In the past, occupational therapy was often separated from physical therapy or surgery, but in recent years sports medicine has considered the issue of prescribing exercise as an indispensable step and this must be done as soon as possible. Especially with the isometric (static contraction) and isokinetic (muscle movement at a given speed) exercise systems to speed up recovery after injury, these methods have shown a marked effect. Calculating the right and right exercise intensity for each specific patient is an important factor in recovery after injury. The advantage of this method is that it is simple, inexpensive, and can be applied early, with obvious effects in improving physical properties. The application of motor exercises is considered the "golden key" in the rehabilitation of motor system function after injury. Thus, when managers at medical service facilities feel the effectiveness of rehabilitation exercises (yoga, meditation...), it will support the patient's recovery process, even better than the measures they are taking, and the intention to apply these exercises will increase.

Secondly, perceived ease of use of rehabilitation exercises has a positive influence on the intention to apply rehabilitation exercises for treating patients in medical service facilities in Vietnam with normalized coefficient β=0.296, Sig=0.000<0.05. This result supports the studies of Rehman et al. (2019) on online purchase intention in Pakistan, the normalized β coefficient is 0.226, t=3.20 p<0.001. However, it contradicts the study of Ong et al. (2015) on the intention to maintain the ISO9000 quality management system in a sample of 216 companies in Singapore when it concluded that no relationship between these two factors was found (p>0.05). Each organization has different characteristics, but there seems to be one thing in common that is often resistant to change because it is not ready to adapt to new things and new methods. Medical service facilities always emphasize the role of the patient treatment system with medical, biological, and chemical solutions, so the application of methods associated with physical therapy clearly creates psychological difficulties in implementation, regardless of the scale of senior leadership or medical staff. Therefore, the ease of use of rehabilitation exercises plays an important role in determining whether their application is really effective in treating patients. Creating a data system that guides movement exercises will help patients who cannot be treated at hospitals or physical therapy centers or patients who have been discharged from the hospital. They will help the practitioner restore mobility and maintain fitness effectively without too much difficulty and time-consuming. An easy-to-use system will promote the participation of everyone from medical staff to patients. Therefore, to promote the intention to apply rehabilitation exercises for the treatment of patients in medical service facilities in Vietnam, it is necessary to create a system of recovery exercises that are easy to understand, remember and practice.

Thirdly, in fact, the application of rehabilitation exercises to treat patients is still limited at very few medical service facilities in Vietnam. Surveys show that currently, only a few large hospitals perform the treatment of injuries for professional athletes such as Vietnam Sports Hospital, Military Hospital 103, and Military Hospital 108, however. Most of them perform rehabilitation according to the treatment protocol of foreign experts. The nature of the recovery process is an active one, so it ends not only with medical recovery but is followed by a period of beginning pedagogical rehabilitation with exercises aimed at general physical preparation and healing exercises. Pedagogical rehabilitation must be carried out on the basis of morphological and functional recovery of the injured part in order to prevent re-injury. The application of rehabilitation exercises to treat patients in medical service facilities is still somewhat new, with the role of a manager, subjective factors such as self-perception, will have an influence on their decision-making, by influencing their perception of the ease of application of rehabilitation exercises for patient treatment, their perception of effectiveness and efficiency compared to with management's current treatments. Research results show that the perception of being a traditional person has a negative influence and the feeling of being a modern person has a positive influence on the perception of the ease of use of rehabilitation exercises in treated patients, with statistical values of (normalized β=-0.243, p=0.000<0.05 and normalized β=0.488, p=0.000<0.05). In addition, the research results also show that the perception of managers at health service facilities in Vietnam as being modern will have a positive impact on the perception of the effectiveness of the exercises of rehabilitation in the treatment of patients and thereby positively affect the intention to apply these exercises in the

treatment of patients at these facilities (normalized β=0.299, p=0.000<0.05).

Thus, it can be affirmed that the self-perception factor plays an important role in influencing the perception of rehabilitation exercises in the treatment of patients, whether it is easy to apply, effective, or not, thereby indirectly affecting the intention to apply rehabilitation exercises to treat patients at medical service facilities in Vietnam.

5. Conclusions

Therefore, the intention to incorporate rehabilitation exercises into patient treatment within healthcare facilities in Vietnam is significantly influenced by several factors. Firstly, the perceived effectiveness of rehabilitation exercises compared to current methods plays a crucial role. Additionally, the perceived ease of use and the perceived effectiveness of rehabilitation exercises for patient treatment are significant contributing factors. Furthermore, the perceptions held by managers at healthcare service facilities also exert influence over the intention to implement rehabilitation exercises as part of patient rehabilitation treatment within medical service facilities.

Building upon these findings, we propose a series of suggestions to enhance the adoption of rehabilitation exercises for patient treatment within medical service facilities in Vietnam. Firstly, medical service facilities should strive to shift the perceptions of healthcare workers by increasing awareness of the benefits of rehabilitation exercises for patients after medical treatment. This can be achieved through targeted efforts such as educating the leadership team and management staff within medical service facilities and promoting a comprehensive understanding of the combined approach of medical and rehabilitation treatments among medical personnel.

Secondly, it is essential to address patient and family perceptions. This can be accomplished by altering patients' perceptions of the role of rehabilitation exercises in their recovery and providing training to patients' families or caregivers on the implementation of rehabilitation exercises.

Thirdly, rehabilitation training institutions, including rehabilitation centers and sports training schools, should focus on researching and developing diverse and easily understandable rehabilitation exercises suitable for patients at different stages of recovery. These exercises should align with the treatment regimens implemented within medical service facilities.

Lastly, health service providers should consider establishing dedicated rehabilitation centers as integral components of their organizational structures. These centers should be staffed with personnel who possess extensive knowledge in physiotherapy and rehabilitation, acquired through professional training programs offered by sports training schools, sports pedagogy, and similar institutions.

By implementing these proposed measures, it is anticipated that the intention to apply rehabilitation exercises for patient treatment within medical service facilities in Vietnam will be enhanced, leading to improved overall patient care and outcomes.

List of symbols

Symbols	Meaning
Eff	The effectiveness of rehabilitation exercises
Comp	The effectiveness of rehabilitation exercises compared to the current method
Easy	Ease of use of rehabilitation exercises
Trad	Traditional people
Mod	Modern people
Inten	Intention to apply rehabilitation exercises

Compliance with ethical standards

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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