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Training And Competency Frameworks for Physiotherapy Telepractice: Consensus and Validation

Rakesh Sahebrao Jadhav[1*], Preeti Murlidhar Gajbhiye[2], Preeti Dagduji Ghodge[3], Vidya Narayan Kadam[4], Anamika Sharma[5]

[1]Dr Bhanudas Dere College of Physiotherapy, Tal. Sangamner, Dist. Ahilyanagar, Maharashtra 422611, India
[2]Pruthviraj Deshmukh College of Physiotherapy, Lohara, Yawatmal, Maharashtra-445002, India
[3]RJS College of Physiotherapy, Kopargaon, Tal.Kopargaon, Dist.Ahilyanagar, Maharashtra -423601
[4]Indira College of Physiotherapy, Vishnupuri, Nanded, Maharashtra -431606, India
[5]Vedantaa Institute of Physiotherapy Sciences, Dahanu, Dist: Palghar, Maharashtra 401606

***Corresponding Author E-mail: drrakeshsj@gmail.com**

Abstract:

The recent trend of digital technologies, automation, and remote monitoring has developed physiotherapy telepractice and has generated a demand to establish clear training and competency models. This review integrates human and preclinical information to review the development, consensus and validation of competencies needed to support successful physiotherapy telepractice. In rodent, rabbit, and canine models, remotely administered, technology-based rehabilitation has been shown to produce repeatable and predictable recoveries in cases of interventions being standardized and monitored objectively. Key competency areas that have been identified are technical and technological expertise, protocol development and standardization, objective observation and data analysis and ethical and safety management. These competencies are validated in terms of definite links between the decisions made by practitioners and quantifiable biomechanical, functional, and biological recovery results. Even though human models offer good internal validity, the drawbacks associated with their ecological irrelevance and differences between species require translation with care. All in all, the evidence of humans can provide a solid preclinical base of evidence-based and consensus-based training and competency models of physiotherapy telepractice.

Keywords: Physiotherapy Telepractice, Human Models, Training Frameworks, Competency Validation, Remote Rehabilitation, Automated Rehabilitation Systems, Preclinical Evidence, Consensus Development.

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1. INTRODUCTION

The recent trend of digital technologies, automation, and remote monitoring has developed physiotherapy telepractice and has generated a demand to establish clear training and

competency models[1]. This review integrates human and preclinical information to review the development, consensus and validation of competencies needed to support successful physiotherapy telepractice. In rodent, rabbit, and canine models, remotely administered, technology-based rehabilitation has been shown to produce repeatable and predictable recoveries in cases of interventions being standardized and monitored objectively. Key competency areas that have been identified are technical and technological expertise, protocol development and standardization, objective observation and data analysis and ethical and safety management. These competencies are validated in terms of definite links between the decisions made by practitioners and quantifiable biomechanical, functional, and biological recovery results[2]. Even though human models offer good internal validity, the drawbacks associated with their ecological irrelevance and differences between species require translation with care. All in all, the evidence of humans can provide a solid preclinical base of evidence-based and consensus-based training and competency models of physiotherapy telepractice.

Figure 1: Physiotherapy Telepractice[3]

Telepractice has been implemented in rodents, rabbits and canines in the musculoskeletal, neurological, and post-surgical rehabilitation fields in human -based physiotherapy studies. Interventions that can be provided remotely (motorized treadmills, robotic limb-loading systems, resistance wheels, sensor-guided activity platforms, etc.) can enable continuous tracking of exercise dosage, intensity, and progression and adjust them in real-time. The reproducible recovery results of these interventions has changed the focus to competencies necessary to plan, execute, and oversee telepractice-based rehabilitation. As a result, human based evidence has gained greater relevance when used to inform organized training pathways and competency models that are able to support the delivery of telepractice safely, effectively and in a standardized manner[4].

1.1 Background and Context

Physiotherapy telepractice has shown the necessity of well-articulated training and competency models that go beyond conventional manual skills of rehabilitation. Remotely administered rehabilitation in telepractice studies involving humans is largely based on competencies of practitioners in the field of technological operation, standardization of protocols, remote monitoring and analysis of data. In contrast to traditional physiotherapy, telepractice means that the practitioners will base training decisions on sensor-based data, automatic feedback systems, and existing progression algorithms instead of direct tactile assessment. Human models offer a controlled environment in which to discover and develop these competencies; this is done by isolating variables under the control of practitioners and directly relating them to objective recovery results[5].

1.2 Objectives of the Review

- To synthesize human-based evidence to identify core training and competency requirements for physiotherapy telepractice.
- To review methodological approaches in human telepractice studies that support competency development and validation.
- To examine key technical, protocol, monitoring, and ethical competencies demonstrated in human-based remote rehabilitation.
- To evaluate how consensus and validation of competency frameworks are achieved using human models.
- To assess the strengths, limitations, and translational relevance of human-based telepractice research for future practice.

1.3 Importance of the Topic

It is important to develop evidence-based training and competency models to assure physiotherapy telepractice of quality safety and uniformity. The human research research has unmatched benefits in this respect because it has high controls to experimentation, reproducibility and objective validation of competencies of the practitioners. The findings of these models are used to develop standardized training courses that minimize variation, increase compliance with rehabilitation guidelines, and achieve stable recovery outcomes. This review will empower the scientific foundation of physiotherapy telepractice by basing telepractice competency frameworks on effective preclinical evidence, in addition to facilitating the reasonable and effective application of telepractice in the wider rehabilitation picture[6].

1. HUMAN-BASED TELEPRACTICE RESEARCH IN PHYSIOTHERAPY: EVIDENCE, METHODOLOGIES, AND CRITICAL APPRAISAL

The studies on human-based telepractice show that the remotely administered, technology-rich, rehabilitation may deliver a stable and efficient recovery results under highly controlled conditions[7]. Internal validity is high with the help of standardized injury models, automated interventions, and objective outcome measures, and there are clear correlations between

training decisions and physiological recovery. Nevertheless, the ecological validity is limited and the behavioral and contextual complexity is lower, which limits direct translation to the real world human therapy and necessitates overcareful clinical translation[8].

2.1 Overview of Human-Based Telepractice Research

The use of human-based telepractice in physiotherapy has mostly been focused on musculoskeletal, neurological and post-surgical rehabilitation by using established models including rodents, rabbits and canines[9]. Such models allow the accurate regulation of the induction of injury and the conditions of recovery, which is why they are especially appropriate when it comes to assessing the remotely provided rehabilitation policies. Musculoskeletal investigations tend to look at the strains of the muscle, injury of tendons and ligaments, and immobilization of the joints whereas neurological models are based on motor deficits, nerve trauma, and defects in movement coordination. In post-surgical rehabilitation and orthopedic rehabilitation, canine models are used more often because they are more related to the human gait and functional movement patterns[10].

Arteficial interventions used in such studies provide the rehabilitation by using motorized treadmills, resistance wheels, robotic arm loading system, and sensor controlled environment of activities[11]. These technologies enable a remote access to monitoring and real time manipulation of exercise parameters including intensity, duration, frequency, and progression. Will allow standardized and reproducible intervention delivery with the provision of continuous feedback on the patterns of movement, the load tolerance, and activity levels, with integrated sensors and digital interfaces. On the whole, human-based telepractice studies provide useful mechanistic information on the feasibility, effectiveness and safety of remotely supervised rehabilitation as well as providing a controlled base on which the telepractice principles could be translated into human physiotherapy[12].

2.2 Methodological Approaches and Findings

Telepractice studies involving human s utilize highly controlled study designs to test in a well-organized manner the effectiveness of the remotely provided rehabilitation interventions[13]. Repeated injury induction procedures are adopted to provide similar baseline injuries in all subjects and hence, minimize the variation in biology and increase internal validity. Such a methodological consistency provides valid comparisons between the rehabilitation interventions made on a telepractice-based and the traditional administration[14].

Rehabilitation is provided with automated or remotely controlled systems like the use of motorized treadmills, robotized loading of the limbs, resistance wheels, and sensor-directed activity chambers. These systems allow an accurate regulation of the dosage, intensity, duration and progression of exercise, reduce therapist-dependent variation, and stress of repetitive manual handling[15].

An evaluation of outcomes is anchored on objective, multimodal measures. Biomechanical tests will measure the gait, joint dynamics, and the generation of forces, histologic tests will

examine tissue regeneration, collagen orientation, and vascularization, and functional tests will assess mobility, endurance, coordination, and task execution. Repeated tests or permanent sensor-based monitoring are used as a longitudinal technique to map recovery curves in detail over time[16].

Key methodological features include:

- Standardized and reproducible injury induction models.
- The rehabilitation parameters have high levels of experimental control.
- Remote or automated programmable delivery of intervention.
- Measurement of objective and quantifiable outcome measures at numerous biological levels.
- Longitudinal data will be collected to take dynamic patterns of recovery.
- Fewer operator bias and enhanced reproducibility.

Key findings from human-based telepractice studies indicate that:

- Remote supervision of rehabilitation has similar or even better results than hand-delivered protocols.
- It is important to have a good dose and progress of exercises to maximize recovery.
- Robotic delivery increases conformity and compliance with intervention in prescriptions.
- Less stress in terms of handling enables better compliance and functional improvement.
- Rehabilitation through technologies encourages reproducible and predictable healing reactions.

Altogether, these methodological solutions, as well as these results, reveal the effectiveness of human-based telepractice models to prove that well-managed, technology-oriented rehabilitation could be as effective as traditional manual one provided that the main therapeutic parameters are properly controlled[17].

2.3 Critical Evaluation of Strengths and Weaknesses

➢ Strengths

Research in human-based physiotherapy and telerehabilitation is associated with high internal validity and great reproducibility because of the use of standardized models of injury, control of situations, and a clear definition of intervention protocols. This rigor enables investigators to manipulate important intervention variables such as the intensity, frequency, duration and progression of exercise using a systematic approach and reduce confounding variables[18]. The outcome assessment is based on objective and measurable parameters including biomechanical

measures, histological parameters, and physiological parameters which minimizes the subjective biasness and improves the accuracy of measurements. Notably, such controlled conditions allow making a sensitive and straightforward connection between certain training choices and the observed physiological reactions and making solid cause-effect inferences, which reinforces the mechanistic explanation of recovery in the context of rehabilitation.

- **Weaknesses**

Although these are the strengths, the human based models have low ecological validity, because in real life rehabilitation set-ups, laboratory conditions cannot be used to fully determine how the environment interacts with occupant. In human rehabilitation, behavioral, psychological, and environmental issues that affect adherence, motivation, and therapist-patient interaction are mostly lacking or reduced to simplicity[19]. Further, human models are less complex in their behavior and context, which limits the capability of investigating the higher-order functional tasks, cognitive activities, and social factors of recovery. These restrictions limit the direct applicability of the results to the human clinical practice and require a careful translation and interpretation when applying the human-based evidence to the diverse patient groups and the real-life context of rehabilitation to the diverse patient populations.

2. CORE COMPETENCIES IN HUMAN-BASED TELEPRACTICE FOR REMOTE REHABILITATION

Human-based Telepractice emphasizes that successful remote rehabilitation must be technologically skilled in the use and programming of automated systems, in designing standardized and repeatable protocols and in the objective evaluation of recovery by sensor-based data. It requires practitioners to perceive the biomechanical, functional, and longitudinal outcomes and use them to make dose-response changes and maintain safety, ethical practice and humane delivery of intervention. Such combined capabilities offer a regulated and ethically correct basis of the transfer of the principles of human-based Telepractice to human telephysiotherapy[20].

3.1 Technical and Technological Competencies

Telepractice research on humans gives a lot of importance to the fact that advanced technical and technological skills are required to provide effective delivery of remote rehabilitation. The practitioners should have a skill of using automated rehabilitation devices like motorized treadmills, resistance wheels, automated limb-loading machines, and sensors-controlled environments. These systems must be carefully calibrated to provide accurate mechanical loading and safety and consistency between sessions[21].

In addition to the standard functionality, competency entails the capability to remotely program and adjust exercise parameters; load, speed, intensity, frequency, duration, etc., in response to real-time recovery measures[22]. The constantly recorded biomechanical data of interest, such as movement symmetry, force distribution, stride characteristics and intensity of activities are obtained with the help of embedded sensors. Telepractice thus demands good analytical

abilities to be able to make sense of these streams of data and make a clinical decision out of them. All of these competencies would provide a way to make rehabilitation interventions adaptive, individualized, and in-touch with physiological recovery processes, even without direct physical supervision.

3.2 Protocol Design and Standardization Skills

Human models identify protocol design and standardization as the basic competencies of successful telepractice implementation. The rehabilitation protocols need to be designed in a well-structured manner, which is likely to reproducible, consistent, and controlled exposure to therapeutic stimuli. This will entail coming up with standardized exercise progressions with well-specified initiation criterion, progression points, and termination points[23].

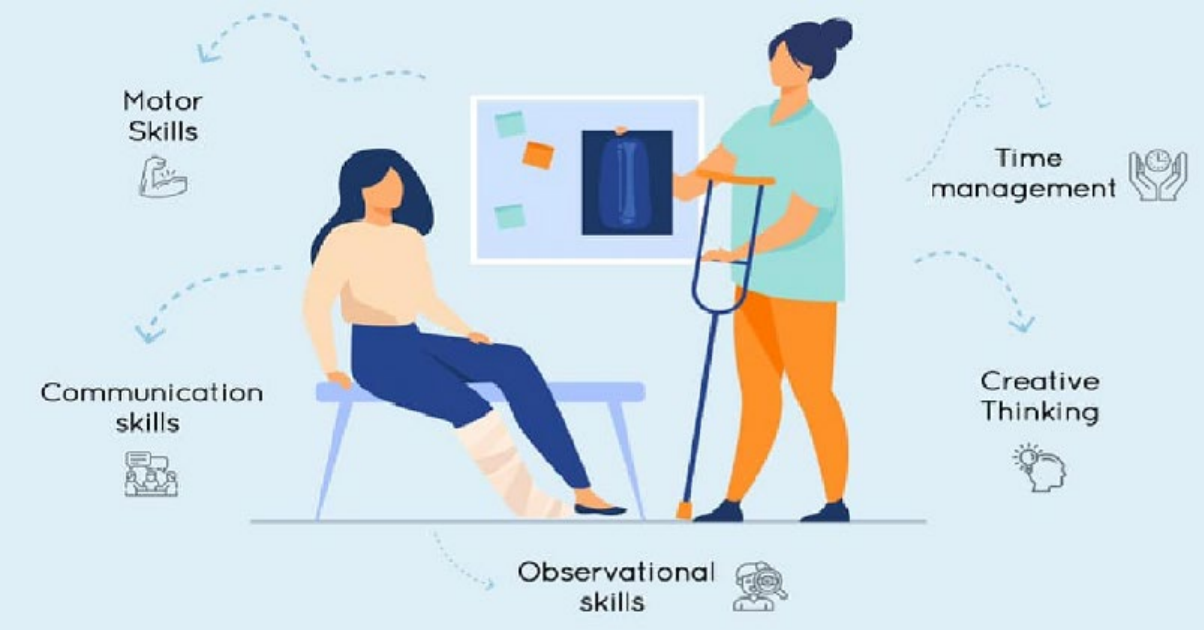

Figure 2: Skills Need to be Physiotherapy[24]

Experience in maximization of dose-responses is especially important since human experiments are based on the accuracy of exercise manipulation in analyzing recovery processes. The practitioners should be in a position to progressively alter the rehabilitation dosage systematically to achieve maximum tissue adaptation with minimum risk of overloading or delayed healing. Besides that, the regularity of intervention schedules, including the frequency of sessions, the periods between them, and a general period of rehabilitation, is crucial to the valid outcomes comparison and longitudinal research. The combination of these skills can foster high internal validity of human research and offer a blueprint of translating protocols of telepractice to human clinical rehabilitation.

3.3 Monitoring, Assessment, and Data Interpretation

Human-based telepractice largely entails monitoring and assessment that is largely objective and data-based, which necessitates expertise in quantitative assessment. Practitioners should

have the expertise of reading gait values, strength values, and activity values based on automated tracking devices and wearables. These measurements are used to give constant information on functional recovery, compensatory movement patterns and load tolerance[25].

Another level of competency is based on the synthesis of functional outcomes and histological and structural results, including collagen alignment, muscle fibre regeneration, and tissue remodelling. This connection enables the practitioners to develop clear correlations between the apparent performance gains and the biologic recovery mechanisms. An interpretation of longitudinal data is also at the center, recovery is a process which is made as time passes and is not a one point event. Skills in the analysis of recovery curves can allow detecting plateaus, regressions or negative reactions at the earliest stage and make timely changes to the rehabilitation regimens and improve the work of the intervention as a whole.

3.4 Ethical and Safety Competencies

The human-based telepractice is based on the ethical and safety competencies because the direct physical contact and supervision are the less intensive in human-based. The practitioners should be trained to observe humans, whether they are distressed, tired, experiencing pain or abnormal behavior based on the behavioral signs and objective physiological evidence. Adverse responses should be detected at early stages of intervention to avoid harm and deliver human intervention.

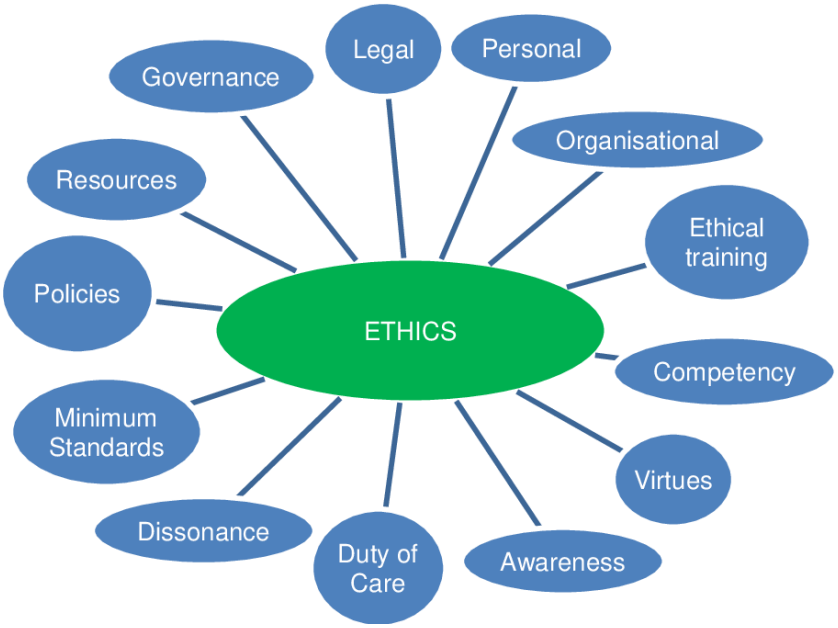

Figure 3: Ethical And Safety Competencies[26]

Safety is also achieved by ensuring that rehabilitation protocols are designed so as to comply with species-specific capabilities and limits without overloading or long periods of exposure which may negatively impact on welfare. Compliance with ethical research principles such as institutional human ethics committee regulations and regulatory policies is a core competency. These codes of ethics support professional research practices and encourage the creation of

telepractice frameworks that value safety, wellbeing, and responsibility. Notably, the ethical rigor which is already in place in the human based telepractice offers a critical basis in making ethical decisions and dealing with risk in future applications of telephysiotherapy in humans[27].

3. CONSENSUS DEVELOPMENT AND VALIDATION OF COMPETENCY FRAMEWORKS USING HUMAN MODELS

Physiotherapy telepractice research based on humans offers a solid scientific basis on which competency frameworks may be developed and validated due to its high level of control experiment[28]. Using standardized injury induction and uniform rehabilitation regimes, and direct measurement of outcomes, human models reduce inter-subject and procedural variation, enabling researchers to control the influence of practitioner-controlled choices. Such rigor of control also allows significant similarity of training methods to be made across studies and laboratories, allowing convergence to a consensus on key competency areas. The successful remotely delivered rehabilitation has been demonstrated repeatedly in various species and models of injuries, which resulted in consensus on core competencies, especially those pertaining to technological skills and standardization of protocols as well as the precise interpretation of remotely obtained data[29].

The telepractice competencies are validated in the human-based studies by the direct and measurable correlation between the actions of the practitioner and the outcome of physiological recovery. Remote exercise prescription, progression planning and safety monitoring are part of the competencies that are defined as validated when the decisions of training are consistent, and the effect remains predictable in terms of tissue healing, functional recovery and neuromuscular adaptation. The objective indicators of the presence of the disease such as biomechanical performance indicators, indicators of tissue repair in histology, longitudinal activity indicators are effective validation standards. These quantifiable results enhance the scientific viability of competency frameworks by basing them on biological reactions that can be reproduced instead of being based on subjective assessment[30].

The validation of competency frameworks that are based on human models is further supported by reliability and reproducibility. These models permit a systematic evaluation of the capability of trained operators to repeat rehabilitation results on repeated trials and experimental conditions. Inter-trial and inter-operator consistency levels are high which implies that definite competencies can be used in a consistent manner, regardless of individual operator variability[31]. These findings justify development of universal training needs and competency standards that are imperative to implement telepractice of physiotherapy using a scalable and consistent approach.

Table 1: Summary of Key Literature on Telehealth and Telepractice Training and Competencies[32]

Author(s) & Year	Study Title	Focus Area	Methodology	Key Findings
Rettinger et al., (2024)[33]	Telehealth education in allied health care and nursing: Web-based cross-sectional survey of students' perceived knowledge, skills, attitudes, and experience	Telehealth education and student competency development	Web-based cross-sectional survey	Students reported positive attitudes and moderate-to-high perceived knowledge; practical skill gaps and inconsistent competency-based training were identified, highlighting the need for structured telehealth curricula.
Salter et al., (2020)[34]	Working remotely: Innovative allied health placements in response to COVID-19	Remote allied health placements and student learning	Qualitative and descriptive evaluation of placement models	Remote placements supported development of communication skills and professional reasoning, but challenges in supervision and competency assessment emphasized the need for structured learning outcomes.
Serwe et al., (2020)[35]	Telehealth student experiences and learning: A scoping review	Telehealth education and student learning outcomes	Scoping review	Telehealth learning was perceived as valuable; variability in outcomes due to program design and technological

				access highlighted the need for standardized competency frameworks.
Smart et al., (2024)[36]	Virtual nourishment: Paediatric feeding disorder management with telepractice amidst COVID-19	Telepractice in pediatric feeding disorder management	Allied health practice-based evaluation	Telepractice enabled continuity of care and family-centered interventions; limitations included technology constraints and the need for specialized telepractice training for complex cases.
Stark et al., (2023)[37]	Competencies required by patients and health professionals regarding telerehabilitation: A scoping review	Telerehabilitation competencies for professionals and patients	Scoping review	Identified key competency domains including technological literacy, communication, self-management, and ethics; emphasized competency-based frameworks for effective telerehabilitation implementation.

Regardless of these advantages, human models still have limitations that are associated with the use of the models in developing consensus and competency validation. The biomechanical specifics of species, reduced behavioral ecological settings, and experimental constraints might not be representative of the complexity found in real world rehabilitation settings. Consequently, although the human-based frameworks have good preclinical validation, they

should be used with some caution in other areas besides the laboratory. Such constraints highlight the role of step-wise translational efforts, in which competencies proven in the human model are recalibrated and contextualized, and then expanded to wider use.

4. DISCUSSION

The studies of human-based physiotherapy telepractice have shown that technology-based rehabilitation even at a distance may yield stable and reproducible recovery results in case interventions are standardised and the competencies of the practitioners are clearly defined. The results indicate that the efficiency of telepractice relies mostly on technical expertise, protocol modification, objective observation, and information-based decision-making as opposed to physical contact. These researches are a good argument in favor of the competency-based training frameworks based on the measurable biomechanical, functional, and biological outcomes. Nevertheless, constraints of controlled setting, a decrease of the behavioral complexity and species-specific variations make direct translation limited. Future studies must thus aim at improving ecological validity, competency validation across models and incorporating adaptive technology to enhance the ecological soundness of telepractice competency models.

5.1 Interpretation and Analysis of Key Findings

The results integrated in the present review show human-based telepractice is used to provide strong evidence about the practicability and applicability of remotely administered technology-based rehabilitation when controlled. In musculoskeletal, neurological, and post-surgical models the standardized injury induction with automated or remotely programmable rehabilitation systems were always able to provide predictable and reproducible recovery outcomes. Such findings indicate that practitioner competencies play a key role in working with technology, drawing up protocols, and objective data interpretation as opposed to direct physical interaction. The distinct correlation between the variables that are within the control of the practitioners and the physiological healing supports the idea that the effectiveness of telepractice is highly contingent on the quality of training and the ability to perform competencies, especially in the technology-mediated settings.

There are further human-based studies which indicate that telepractice can be as effective as traditional manual rehabilitation in case exercise dosage, progression, and monitoring are strictly regulated. The minimized stress associated with handling and an increased rate of following standardized practices help to increase compliance and functional benefits, which is why automation and remote management can be deemed important. Taken together, the results indicate the assumption that a competency model of physiotherapy telepractice should focus on technical competence, the use of data to make evidence-based decisions, and the development of intervention programs with a standardized pattern of action to deliver a consistent therapeutic effect.

5.2 Implications and Significance for Training and Competency Frameworks

The reviewed evidence can be used in the development of organized training and competency systems in physiotherapy telepractice. Human-based simulation proves that productive telepractice should involve the transition of the predominantly manual set of skills to the technological operation, protocol standardization, remote monitoring, and quantitative data decoding competency. These competencies are not auxiliary, but they are core to effective implementation of telepractice since programming, monitoring, or interpretation errors have a direct effect on recovery.

The scientific basis of competency-based training methods is enhanced by the validation of competencies using objective biomechanical, histological and functional indicators. The human-based research provides a foundation of the training needs based on quantifiable biological outcomes; thereby, supporting the development of standardized and reproducible training pathways that decrease practitioner variability and increase intervention consistency. In addition, the robust ethical and safety supervision inherent in the human-based telepractice reaffirms the significance of incorporating the concepts of welfare-based decision-making and risk management within the competency frameworks. Collectively, these implications emphasize the contribution of the human based evidence in the formation of strong, responsible and evidence based models of telepractice training.

5.3 Gaps, Limitations, and Future Research Directions

Although human-based telepractice research is strong, there are gaps and limitations that should be thought of. Laboratory conditions and reduced behavioral complexity of human models make the ecological validity controlled and the process of rehabilitation of complex dynamics in the real world less realistic. The role of higher-order functional behaviors, cognitive involvement, and contextual factors on adherence to rehabilitation has not been well-researched according to the present-day models of telepractice. Moreover, the differences in biomechanics and recovery between species are also problematic regarding the creation of universal competency systems.

It is recommended that further studies on the human-based telepractice be carried out to include more environmental complexity, adaptive rehabilitation algorithms, and cross-species competency domain validation. Framework validation would also be enhanced through longitudinal studies investigating the processes of competency acquisition, maintenance and operator variability. The inclusion of more sophisticated sensor technologies, machine learning-based feedback, and adaptive progression models might also make telepractice training models more precise and scalable. These lapses will actively be essential in correcting competency standards as well as facilitating gradual translational pathways that will help to bridge preclinical validation with expanded physiotherapy practice.

5. CONCLUSION

This review shows that the research on human-based physiotherapy telepractice offers a solid and scientifically sound basis on training and competency framework development, consensus,

and validation. Multiple studies conducted on controlled musculoskeletal, neurological and post-surgical models demonstrate that remotely administered, technology-based rehabilitation can provide predictable and repeatable recovery in cases where practitioner expertise in operating technology, protocol development, objective monitoring and ethical supervision is effectively outlined and implemented in a systematic manner. The close correlation of practitioner-guided choices and quantifiable biomechanical, functional, and biological outcomes contributes to the validity and reliability of competency-based training methods. Although caution in translation is necessary due to ecological and other constraints that limit the generalizability of such models as well as the complexity of certain behaviors and species-specific variations, human models are necessary to perform preclinical validation. In general, it is essential that the physiotherapy telepractice competency frameworks are based on strong human evidence to promote standardized, safe, and efficient practice and to inform progressive translational processes to expand rehabilitation use.

REFERENCES

1. Alharbi, S. H., Alnuwmasiu, F. M., Alonazi, F. M., Alwahdani, M. N., Alshammary, N. S., Almarzouq, Y. F., ... & Alowaidan, S. R. The Role of Healthcare Professionals and Telehealth in Comprehensive Medication Management. International Journal of Health Sciences, 7(S1), 3387-3397.
2. Allen, J. E., Cleland, J., & Smith, M. (2023). An initial framework for use of ultrasound by speech and language therapists in the UK: Scope of practice, education and governance. Ultrasound, 31(2), 92-103.
3. Anil, K., Bird, A. R., Bridgman, K., Erickson, S., Freeman, J., McKinstry, C., ... & Abey, S. (2025). Telehealth competencies for allied health professionals: A scoping review. Journal of Telemedicine and Telecare, 31(4), 487-499.
4. Bohecker, L., & Eissenstat, S. J. (2020). Five licensure portability models for the counseling profession to consider. Journal of Counseling & Development, 98(2), 220-229.
5. Campbell, J., Theodoros, D., Hartley, N., Russell, T., & Gillespie, N. (2020). Implementation factors are neglected in research investigating telehealth delivery of allied health services to rural children: A scoping review. Journal of telemedicine and telecare, 26(10), 590-606.
6. Cottrell, M., Featherston, S., & Pateman, K. (2025). Determining a capability framework and training requirements to support provision of physiotherapy via telehealth in an Australian public tertiary health setting: a multi-methods study. Physiotherapy Theory and Practice, 1-11.

7. Davenport, T. E., Lee, A. C., Raja, B., Stark, M. L., Reed, C., & Magnusson, D. M. (2024). Educational competencies for telehealth physical therapy: Results of a modified Delphi process. Work, 79(3), 1531-1549.

8. Davies, L., Hinman, R. S., Russell, T., Lawford, B., & Bennell, K. (2022). An international core capability framework for physiotherapists delivering telephone-based care. Journal of Physiotherapy, 68(2), 136-141.

9. Davies, L., Hinman, R. S., Russell, T., Lawford, B., Bennell, K., Billings, M., ... & Roots, R. (2021). An international core capability framework for physiotherapists to deliver quality care via videoconferencing: a Delphi study. Journal of Physiotherapy, 67(4), 291-297.

10. Dostie, R., Gaboury, I., Cinar, E., & Camden, C. (2022). Acceptability of pediatric telerehabilitation interventions provided by physical therapists and occupational therapists—A scoping review. Physical & Occupational Therapy in Pediatrics, 42(6), 615-634.

11. Douglass, H., Lowman, J., & Causey-Upton, R. (2023). Clinician perspectives of telehealth pre–COVID-19: A systematic review and qualitative metasynthesis. Perspectives of the ASHA Special Interest Groups, 8(2), 396-411.

12. Drude, K. P., Hertlien, K. M., Maheu, M. M., Hilty, D. M., & Wall, K. (2020). Telebehavioral health competencies in interprofessional education and training: A pathway to interprofessional practice. Journal of Technology in Behavioral Science, 5(1), 30-39.

13. Fergus, A., Hartsook, K., Smith, J., Hale, M., & Kellar, D. (2021). A novel physical therapy learning experience in pediatrics via telehealth: A qualitative case analysis. Journal of Physical Therapy Education, 35(2), 159-167.

14. Hall, N., Juengling-Sudkamp, J., Gutmann, M. L., & Cohn, E. R. (Eds.). (2019). Tele-AAC: Augmentative and alternative communication through telepractice (Vol. 1). Plural Publishing.

15. Howells, S., Cardell, E. A., Waite, M. C., Bialocerkowski, A., & Tuttle, N. (2019). A simulation-based learning experience in augmentative and alternative communication using telepractice: speech pathology students' confidence and perceptions. Advances in Simulation, 4(Suppl 1), 23.

16. Jimenez-Arberas, E., Casais-Suarez, Y., Fernandez-Mendez, A., Menendez-Espina, S., Rodriguez-Menendez, S., Llosa, J. A., & Prieto-Saborit, J. A. (2024, January). Evidence-based implementation of the family-centered model and the use of tele-intervention in early childhood services: A systematic review. In Healthcare (Vol. 12, No. 1, p. 112). MDPI.

17. King, N., Wiley, M., Rose, A., & Fergus, A. (2024). Delivery of school-based physical therapy via telehealth: Perceptions and attitudes of school-based physical therapists. Physical & Occupational Therapy In Pediatrics, 44(2), 180-197.

18. Larson, A. L., Romano, M., Meyers, C., Eugenio, J., & Olsen, S. T. (2022). Supporting caregiver coaching in telepractice through web-based professional development. Perspectives of the ASHA Special Interest Groups, 7(2), 616-634.

19. Lee, J. J., Finch, E., & Rose, T. (2020). Exploring the outcomes and perceptions of people with aphasia who conversed with speech pathology students via telepractice: a pilot study. Speech, Language and Hearing, 23(2), 110-120.

20. Leone, E., Eddison, N., Healy, A., Royse, C., & Chockalingam, N. (2021). Exploration of implementation, financial and technical considerations within allied health professional (AHP) telehealth consultation guidance: a scoping review including UK AHP professional bodies' guidance. BMJ open, 11(12), e055823.

21. Liang, J., Hopf, S. C., & Paton, I. (2025). Physiotherapists reported communication adaptation when working with people with aphasia as a consequence of stroke: a scoping review protocol (OSF. IO/24KNP). Aphasiology, 1-10.

22. McKenzie, C., Titzer, M., Hutchinson, A., Dodge, C., & Fergus, A. (2024). Analysis of a model for pediatric physical therapy and clinical education via telehealth. Journal of Pediatric Rehabilitation Medicine, 17(2), 271-288.

23. Meadan, H., Chung, M. Y., Sands, M. M., & Snodgrass, M. R. (2020). The cascading coaching model for supporting service providers, caregivers, and children. The Journal of Special Education, 54(2), 113-125.

24. Merolli, M., Vallance, P., McCreesh, K., O'Sullivan, C., Ahmed, O., Kerry, R., ... & Gray, K. (2025). Entrustable professional activities for physiotherapists to demonstrate digital health competency: an international delphi study. Physiotherapy Theory and Practice, 1-14.

25. Milne, N., Springberry, M., Baumann, A., & Farley, J. (2019, October). Linking the essential core paediatric competencies in entry-level physiotherapy education to an australian entry-level extended-masters physiotherapy curriculum: a case study. In TRANSFORM 2019 Physiotherapy Conference.

26. Mocke, M., Unger, M., & Hanekom, S. (2025). Validation of the World Health Organization Rehabilitation Competency Framework: An illustration using physiotherapy. Clinical Rehabilitation, 39(1), 88-98.

27. Muò, R., Blomqvist, E., Rautakoski, P., Lyberg Åhlander, V., & Schindler, A. (2025). Training healthcare students to be competent communication partners: a scoping review. Disability and Rehabilitation, 1-18.

28. Muthukrishnan, P. (2025). Artificial Intelligence and the Future of Physiotherapy: A Comprehensive Analysis of Workforce Transformation and Professional Adaptation by 2030. Available at SSRN 5779722.

29. Palesy, D., Forrest, G., & Crowley, M. E. (2023). Education guidelines, frameworks and resources for building virtual care capacity: An integrative review. Journal of Telemedicine and Telecare, 29(3), 222-243.

30. Pittmann, R., Danaher-Garcia, N., Adair White, B. A., & Thompson, A. (2025). Development and validation of the Telehealth Etiquette Competency Checklist: a Delphi study. Journal of Telemedicine and Telecare, 31(9), 1308-1316.

31. Ransdell, L. B., Greenberg, M. E., Isaki, E., Lee, A., Bettger, J. P., Hung, G., ... & Cason, J. (2021). Best practices for building interprofessional telehealth: report of a conference. International Journal of Telerehabilitation, 13(2), e6434.

32. Rettinger, L., Aichinger, L., Ertelt-Bach, V., Huber, A., Javorszky, S. M., Maul, L., ... & Kuhn, S. (2025). Best Practice Guide for Reducing Barriers to Video Call–Based Telehealth: Modified Delphi Study Among Health Care Professionals. JMIR Human Factors, 12, e64079.

33. Rettinger, L., Putz, P., Aichinger, L., Javorszky, S. M., Widhalm, K., Ertelt-Bach, V., ... & Kuhn, S. (2024). Telehealth education in allied health care and nursing: Web-based cross-sectional survey of students' perceived knowledge, skills, attitudes, and Experience. JMIR Medical Education, 10(1), e51112.

34. Salter, C., Oates, R. K., Swanson, C., & Bourke, L. (2020). Working Remotely: Innovative Allied Health Placements in Response to COVID-19. International Journal of Work-Integrated Learning, 21(5), 587-600.

35. Serwe, K. M., Heindel, M., Keultjes, I., Silvers, H., & Stovich, S. (2020). Telehealth student experiences and learning: a scoping review. Journal of Occupational Therapy Education, 4(2), 6.

36. Smart, S., Imms, D., & Brewer, M. (2024). Virtual nourishment: Paediatric feeding disorder management with telepractice amidst COVID-19: An allied health perspective. International journal of speech-language pathology, 26(6), 873-883.

37. Stark, A. L., Krayter, S., & Dockweiler, C. (2023). Competencies required by patients and health professionals regarding telerehabilitation: A scoping review. Digital Health, 9, 20552076231218841.

38. Su, W. C., Cleffi, C., Srinivasan, S., & Bhat, A. N. (2024). Does Delivery Format Matter? A Pilot Study Comparing Telehealth Versus Face-to-Face Movement Interventions for Children With Autism Spectrum Disorder. Pediatric Physical Therapy, 36(4), 518-528.

39. Walters, J., Bryant, L., & Hemsley, B. (2025). A systematic review of evidence relating to the use of telesupervision for speech-language pathology students on clinical placements. International journal of language & communication disorders, 60(1), e13133.

40. Zischke, C., Simas, V., Hing, W., Milne, N., Spittle, A., & Pope, R. (2021). The utility of physiotherapy assessments delivered by telehealth: A systematic review. Journal of global health, 11, 04072.