

Tele-Physiotherapy- Beyond Distant

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Opinion

From a possible provision to address a forbidden remote client Tele-Physiotherapy now has emerged as a tall solution for growing challenges of urban especially metropolitan lives. Some decades back it was an option to reach out clinical situation which otherwise remained unattended due to distance or scarcity of manpower. The rural/ remote outreach used to be the USP pertaining to the scope of Tele-Physiotherapy; however soon it got challenged by unmatched infrastructure requirements, unprepared technical staff and generally doubtful efficacy in society. This most promising mode was thus succumbing to “challenge–thrive–challenge” vicious. Until recently it was not considered as an effective mode of physiotherapy care delivery in urban population. Unlike rural settings urban population has to brave traffic, time constraint to address their physiotherapy needs, in addition growing cost of infrastructure especially space in mega cities are directly impacting cost equation of the treatments which is turning detrimental to the social acceptance of physiotherapy and its due penetration in healthcare system. Further there are aspects of treatment like real life therapy interventions, dynamic treatment modulations, continuous monitoring, multiple daily sessions, group therapy and so on; where attending to a physiotherapy clinic once daily even is not purposeful. And contrary to rural scenario urban infrastructure is well equipped, better and faster connected; client is much aware tech savvy, accessible and available on all communication platforms be it mobile or internet. Also in cities workplace, schools, public places and even homes are more ready for instructional and communication connectivity.

With this preamble it is necessary to look again at the scope of Tele-Physiotherapy and explore its evident acceptance and possibilities in urban culture. It surely fixes many issues with its ubiquitous and ambient nature. With growing popularity of wearable, virtual gears, augmented reality and artificial intelligence can be the key to our many issues and quoted challenges. Another very important collateral benefit of Tele-Physiotherapy is spontaneous, simultaneous and effortless recording of data and information pertaining to the therapist patient interaction during the therapy. This would offer great help in medico-legal situations, Big Data analysis, drawing trends etc. Time has come to collaborate with mobile Apps developers, gaming giants and notifications agencies and especially with Virtual, Haptic and push nature to incorporate physiotherapy features and components such that they become

more yielding. Technological marvels like touch, visual, and audio controlled devices and software are the boon of this century for patients of varied disability and physical limitations. This can be a strong tool for insurance companies to gauge client participation and adherence to regimen that may affect their policy cost and claims as a direct implication. Advantages of Internet of things (IoT), GPS and social media can be tapped for group participation, real time motivation and inspirational updates. Simulated situations in real time settings of workplace, traffic, household chores, tutelage etc will ensure instant on spot observation/ reporting of signs and symptoms and also the remedial measures may intervene almost concurrently to scare accumulation amounting to chronicity of the problem. This provides both client and consultant timely opportunity to identify and arrest the problem and thus checking its establishment and deterioration.

An artificial therapy environment with customized parameters, updatable information, backup resources; living with the client is the need of hour. In such a situation, therapy would become more functional and client focused. An ecosystem where client- and consultant including third party stakeholders, share information and extend solution is fitting answer to today's concerns of laggard professional availability and growing awareness & reporting of health complaints among populations. While this may cut cost and time of the care delivery it will also open national and international interfaces of communication and accessibility. Govt policy makers and third party stakeholders like insurance agencies and employers would also be indirect beneficiary of such a humanoid network. The necessary seed money for such ventures thus may not be a problem provided consultants are smart enough to partner with such third party and make them understand it's far reaching socioeconomic potential and benefits. Based upon these propositions two models of cloud physiotherapy clinics are presented in the forthcoming content is brain child of principal author of this article.

Cloud Physiotherapy Clinic

Requirements at the client end-

1. Real time audio-visual connectivity
2. Archiving of reference audio-visual offline reference
3. Space for group/ individual therapy sessions

4. Mobile / tablet based client log-in for record and backup
5. Instructional audio-visual projection
6. Social media connectivity between the participants

Provisions from the cloud clinic not limited to–

1. Initials and continued assessment and monitoring of the condition
2. Live consultation sessions
3. Integrated investigation record
4. Updated client medical and other relevant information
5. Real time education for preventative and curative measures
6. Online therapy sessions
7. Offline therapy sessions
8. Offline reference
9. Live haptics and notifications / alerts
10. Virtual; interface between Therapist - School – Parents – Society – Academia – Researcher
11. Automatic individualized Progress report and remedial measure generation
12. Rating of participants for reference for health institutions / insurance / therapy providers

Application Modules

Module 1

Scope of Application – schools / student learning centers

Participants – students of varied age group ailing from initial to late issues pertaining to posture, obesity, flexibility, growth etc.

Module 2

Scope of Application-Desktop based workplaces like Banks, Call centers etc.

Participants-working population of varied age group ailing from initial to late issues pertaining to lifestyle, degeneration, posture etc.

Module 3

Scope of Application – Home/club/fitness gyms/old age homes

Participants – people of varied age group ailing from initial to late issues pertaining to degeneration, cardio-vascular etc.

Notwithstanding with the merits of Tele-physiotherapy; unprepared adoption of such a system of care delivery has its own challenges. On one hand consultants require to skill themselves while making vital observations and spontaneous therapy modulations, other side needs managing cost of installation, maintenance and updating of appropriate gadgetry/infrastructure to meet the necessary and statutory requirements for such system of care delivery. Also radical changes in are necessary with respect to standardization of evaluation methods, treatment protocols, intervention dissymmetry and follow up regimens etc. The implication of Tele-physiotherapy are far reaching, that also goes well for its challenges, technical snags, digitization of current practices and information, statutory paucity regarding safeguarding for all stakeholders, data privacy, correctness of care and communication, are few to mention subjects which need timely efforts in proper directions.

Apparent concluding note would be that it is high time all stakeholders must contribute their bit and embrace Tele-physiotherapy and start unfold its untamed potential. Innovative approach is needed to collaborate academia, researchers and policy makers to put forth a tangible model of Tele-physiotherapy practice. The subject of Tele-physiotherapy is Multi-disciplinary and so should be its constituents. We need to brace ourselves against growing scarcity of Healthcare professionals; Tele-physiotherapy surely would open practice and healthcare system opportunities at global platform. With critical physical assessment done conventionally at the clinical setup by all possible means, Tele-physiotherapy can steer the patient's otherwise abandoned conditions towards betterment in cases where regular conventional physiotherapy cannot be pursued due to challenging hardships of rural infrastructure and city life.. Alternatively there may be blend of sessions of conventional and Tele-physiotherapy for better treatment compliance and resolution of patient condition. Not eliminating conventional physiotherapy, Tele-physiotherapy can be its integral adjunct and option within its scope and domain.