Tele education as a strategy of optimization of the Health Integrated Networks’ response capacity

This is a review of published articles linked to tele-education, distance education and e-learning processes related to health, with the objective of verifying the validation of tele-education as a tool to improve / optimize the capacities of intervening actors or trainers of the Integrated Health Services Networks, extending this objective to the community itself.

Keywords: Integrated Networks; Tele Education; Resolution Optimization; Distance Learning.

Introduction

The fragmentation of the health services manifests itself in multiple ways through the many levels of the sanitary system. In the general performance of the system, the fragmentation is manifested as a lack of coordination among the different levels and health care, duplication of the services and of the infrastructure, installed capacity and health services rendered in the least appropriate manner. In the experience of people who use the system, the fragmentation is expressed as a lack of access to the services, loss of the continuity of the attention and lack of coherence of the services with the necessities of the users.
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Even if the challenge of the fragmentation is common in most countries of the region, its magnitude and its main causes are different depending on each particular situation. Nonetheless, the main causes of the fragmentation at a regional level are: the institutional segmentation of the health system; deconcentration of the health services fragmenting the attention levels; predominance of verticalized programs in diseases directed to specific populations; extreme separation of the public health services from the people’s attention services; attention model centered in the disease with emphasis on the care of acute episodes and prioritization of the hospital treatment; weakness of the management role of the sanitary authority; problems in the quantity, quality and distribution of the resources; and funding practices of some cooperation organisms/international donors that promote actions in closed and decontextualized niches of the population.

Consequently, it is proposed as an overcoming proposition of this system problematic, for the integrated networks of health services, the ones that act developing the articulation among resolutive levels and protecting themselves as a continuum of services and actions that facilitate the access of the citizen to its attention.

Therefore, an integrated network of health services consists in the management and delivery of services in a way where people will have a group of services of promotion, prevention, diagnosis, healing, rehabilitation and social reinsertion according to their needs, throughout time and through the different effectors of the health system, with an efficiency, effectiveness and efficacy that are acceptable for the technological and historical-social moment in which the health system is found.

It is expected that the RISS can improve the patient’s accessibility, reduce the fragmentation of care and of attention, improve the global efficiency, avoid the duplication of infrastructure and services, reduce the production costs and better answer the needs and expectations of the people.

Given the big variety of contexts of the health systems it is not possible to prescribe a single organizational model of RISS; in fact, there are multiple possible model. The objective of the public policies is to reach a design that can satisfy the specific organizational needs in each social context. Nevertheless the variety of possibilities signposted previously, the experience accumulated in the last years indicate that the RISS require a group of essential and minimal attributes for its adequate functioning (grouped according to scope of approach):

1) Population and territory with defined position and wide knowledge of their needs and preferences about health, that determine the offer of health services.

2) A wide network of health establishments that do services of promotion, prevention, diagnosis, treatment, management of diseases, rehabilitation and palliative care, integrating programs that are focused in diseases with specific risks and populations, the personal health services and the public health services in a unique and integrated organizational method.

3) A first level of multidisciplinary attention that covers all of the population and that serves as gateway to the system, that integrates and coordinates the health attention, besides satisfying most part of the health needs of the population.

4) Provision of services specialized in a more appropriate place, that are offered preferably in out-of-hospital surroundings (from a distance for example).

5) The existence of mechanisms of welfare coordination inter levels during all the health services.

6) Medical care centered in the person, the family and the community, given the culture and gender particularities, and the levels of diversity of the population.

However, in the marl of the implementation of the RISS as an essential strategy in order to ensure the universal coverage of health in a certain geographic scope, it is relevant to consider not only the quantitative availability of the provision of services in health in the system, but also it is necessary to consider the resolutive capacity (qualitative component) of the technical, infirmary and administrative personnel in order to develop themselves in their specific roles inside the health system. This problem-solving competence will be efficient as the professional technique evolves, which will allow it to transform itself in a diagnostic and therapeutic tool with bigger precision and security. Such condition will allow a high percentage of patients to be resolved in an effective way locally, without the need for motivation by the own patient, generating a saving of costs for the health system and for the assisted population. It is important to make this resolution competence extensive to the social environment through the formation of health communal leaders, in a way that as a system it allows the following of distant populations and as a way to optimize the sanitary promotion and prevention in these areas.

These considerations highlight the importance of the role that tele education fulfills in the optimization of the health system in all its components: promotion, prevention, attention, rehabilitation and social insertion.

In this formative and educational process there is emphasis in the work of constructivist knowledge of the distance education, consequently doesn’t work as a mere transfer of information, but the provided information is enriched and discussed as of the local reality and later redefined for its application. The consultations performed to the students that took from a distance courses in health, revealed that 100% of them informed that the learning was contextualized in the practice, that their previous expectations were met, that the
distance format was interesting and effective, in addition to highlighting the exchange of concepts between the participants. A frequent complaint in from a distance courses in Latin America refers to the connectivity problems and consequently the infrastructure of internet and bandwidth that constitute critical points for the assurance of the objectives.4

This exchange of educational paradigms intervenes in the processes, abolishing the distances between the educators and students, while providing through the TICs the knowledge that is unavailable and/or inaccessible for them in a given educational/formative orthodox modality, for what these require from the transfer and from the time inversion possibility and training costs.

Another important aspect to analyze is that in the studied jobs, more than 80% of the participants achieved the approbation and the accreditation of the courses, with high levels of qualification and acceptance in the distance modality.6 Another study that used the distance formation strategy through the use of information technology for its culmination, informs a level of approbation in the capacitation in a percentage next to 70% of a total of 884 enrolled students.

In this sense, it was reported educational and formational experiences directed towards health professional for example medical residents, through the use of baseline communication web platforms between the residents and the tutors in charge of their formation.7 These platforms are characterized as knowledge management tools and as means for the development of cross-sectional skills that complement the formation of the specialists8. The frequent architecture of these platforms contemplates different interactive modules:

1. Management of the formation.
2. Tele formation based in the use of the web platform (MOODLE), with integration with the formation management.
3. Collaborative system (social network format) in the modality of participation and emission of opinion forums.
4. Management of documents, is a system that stores the needed documents and bibliography for the training.

The Telemedicine University Network (in Portuguese: RUTE) is an initiative destined for the integration of the Teaching and University Public Hospitals, the Medical Schools and the Research Bodies, being considered as pioneer, and considered as a fundamental strategy for the optimization of the quality of public health in its distinct action levels.

The RUTE in the wide spectrum of available activities, fosters the integration and collaboration between the health professionals from the teaching healthcare institutions and state universities through the Program of Medical Specialties Special Interest Groups (SIG) allowing the exchange of pragmatic and academic knowledge, in a way that facilitates the contribution of solutions and the sanitary problematic.

The university public hospital must play the triple function: assistance, teaching and investigation. While all these functions are inherent to a hospital that forms human resources, the investigation and the education are strategical activities for its development, in a way that its planning results in a key, both in terms of infrastructure and structure, hence it must be considered the inversion in the training and in the development of the investigations. The education must respond to the needs and the investigation to the priorities, and thus is useful to formalize conventions with the academic-scientific institutions in the objectives prior mentioned.

An important point to highlight is the flexibility contributed by the strategy of teaching from a distance with the use of the TICs, resulting in an essential tool for the achievement of the adhesion of the students to the trainings and the updates in the achievement of the established objectives for the health system.13 Therefore, the synchronous and asynchronous modalities provide a range of possibilities, that individually or integrated allow great levels of training in different objective recesses (Residents, graduate students, professionals, community, etc). Obviously, these actions are possible through the use of web platforms that are adequate and constructed with these interactive technical possibilities

Another important aspect that involves the processes of synchronous tele education and that somehow shapes them as a modality of bigger utility in most of the formative situations, is that the student decides about the time and moment that are more convenient for the learning. This is observed through the frequency of observation of the seminars in the study platform about tele education when one analyzes how the students use different moments of the day according to their availability for learning.

Moreover, one must be open to critics and observations that the students make to the distance teaching courses as a form of self-evaluation from the trainings’ organizers, thus one can learn and improve their quality to achieve in the future better results than the one that was obtained.

In the context of the informed works, we can rescue those that have evaluated the formative efficiency of the teaching from a distance vs the processes of traditional and on-site teaching through the reached levels of approbation.

In part, these performances are based in the characteristics of the process of learning that essentially is of the interactive kind, consequently generating a feedback scope between the teacher and the student that leads to a mutual enrichment. The teacher contextualizes their teaching and the student learns from their own context and pragmatism, granting a maximum utility to knowledge in the search for concrete results.
Both the education and the investigation are firmly linked to each other and to the quality of the care to the patients\(^2\), both are tools of a strategic organization with academic responsibilities, forming part of the thinking that must guide a modern hospital. The investigation for its part not only has the potential to generate the knowledge that may contribute to problem solving, but also that propitiates an environment in which one questions the established knowledge, discusses the advances and fundament the decisions, which is highly beneficial for the achievement of growth and institutional excellency.

The experience collected in the countries with a bigger path in hospital investigation shows that not all doctors are prepared or motivated to carry out investigations, and that it would be desirable to design clinical services in with one had a fruitful mix of doctors whose fundamental task would be centered in care, among with others that would align the consultation with the investigation, while other professionals led to teaching, to care and to investigation and finally to provide professionals that would dedicate themselves entirely to investigation. A team formed under this modality of vision, must work in a coordinate way in order to seek the assistencial innovation through the knowledge that will come from the scientific production. Since not all hospitals have the needed conditions to give place to the previously proposed format, it is also admitted that in many hospitals it is only possible to develop certain kind of projects and that in many others there aren’t even any conditions to carry out said activity.

For this reason the university network created between universities that are dedicated to the training of health professionals and the university hospitals of the healthcare system joins in the construction of a highly productive strategy in order to allow the installation of the translational investigation, democratizing the knowledge and making it available to the resolution of the problematic inside its real context\(^2\).

In this moment marked by the scientific evidence for the decision making in health, the university hospitals needs to delve more in the translational investigation (TI)\(^2\), to have in mind that the center purpose of the TI is to provide an alternative of effective and lasting action to the complex relation that exists between the investigation in health and the decision making at a political level.

The function of the scientific investigation doesn’t consist solemnly in creating scientific knowledge but in applying it for the benefit of the whole community. The science must fulfill with this social function, the investigator has the inevitable compromise in the practice to put the scientific evidence to the service of all citizens and to allow the constitutional exercise of right to the health of these people\(^2\).

The role of superior education is essential to create the intellectual capacity to produce and use knowledge to permanent learning, to update knowledge and abilities, important questions in a society where knowledge is the main motor of development and economic growth\(^2\).

In the medical formation, both the formation for the investigation and the formational investigation are essential\(^2\). The educations can’t be great when conducted in channels that are prone to imitation and application of knowledge from its totality in the foreign experience. The advance of medicine undoubtedly is due to the investigation\(^2\). The objective is to verify the validity of the tele-education as a tool of optimization/improvement of the capacity of the actors that play in the health effectors of the RISS.

Method

The methodology of elaboration of the present revision consisted in the investigation and analysis of existent publications about tele education, distance and e-learning mainly related to the health area. The search was carried out in the publications of the Latin American Tele Health Magazine (in the concepts previously described) online version, Lilacs Library and Cochrane Library. In addition to focusing in the revision in the health area, we prioritized those articles or publications that were linked to the Latin American context, in view of the similarities or political, economic, cultural and ethnic proximities, warning and considering that a high percentage of the countries in the region present great geographic extension with the presence of barriers that difficult the transit and the displacement between territorial points that is one of the bases of the application of tele education among others.

The investigation consisted consequently in the confirmation and detection of characteristics and properties of the tele education processes that allowed the validation of it as a tool of improvement or of optimization of the integrated networks of health services.

Results

The analysis of the articles published in the sources described in the methodology of the present revision, allows the extraction of some essential properties of distance teaching mediated by TyCs. Those considered as most important to the purpose of Tele Education as a tool of optimization and/or of improvement of the Integrated Networks of Health Services, are the following:

Adaptability

Allows the approach of different groups and cohorts regarding the base educational characteristics and of objectives posed as of the formative strategies. This means that it adapts both to the improvement and update of specialists and to the formation of residents of the different specialties or good to the training of community effectors and sanitary agents for the approach of prevention and promotion actions in the actual field, in addition to being a facilitator element in the training of those actions that are used for the
surveys of the population in cases of epidemic breakouts, vaccination campaigns, catastrophes, etc.

Flexibility

It is possible to carry out the combination of different teaching formats that are available as of the technology, for example the synchronous videoconference (in real time) with rooms for questions and technical proposals related to the theme; or the asynchronous modality that allows the charge in platforms specially designed from virtual classes for the accommodation of the modules ore classes with their respective bibliography or materials destined to the students.

It is also possible to carry out a combination between the crossing of modalities according to the moments of the course, in order to search for a bigger impact and learning of the students.

Efficiency

The distance teaching tool mediated by TyCs showed within the framework of the analyzed articles a high level of efficiency. The fundamentals of the preceding affirmations is based in the levels of achieved fulfillments of formative objectives that exceed 70% of approval in all cases, achieving in most experiences approving qualifications that are higher than 80%, while that in other works it can be observed approval levels near 90%.

Contextuality

Another important observed property is the ability to form and insert the knowledge in a specific contextual framework that is the action field of the student (for example the formation of community agents in the Argentinian puna, the training in promotion and prevention of infections by vectors in the amazonas, the update of sanitary agents in the early capture of pregnant, etc). The same happens with those coursed or teaching processes that are destined to health professionals for their update and improvement. This is due to knowledge being in feedback (bidirectional) with the teacher and based in the scope of performance of the students. It can be clearly observed that the contextuality is supported mainly in the education paradigm used in the distance teaching mediated by TyCs that is emphatically different with the orthodox teaching where the process is purely based in the transfer of knowledge in a unidirectional modality. In the distance learning modalities, the knowledge is proposed and discusses, being adapted to the work context with the characteristics and specifications that are singular to the application points.

Availability

This property must be considered of high relevance given that it allows the student to adapt their time to carry out the course or formation activity in particular the asynchronous modality and where it is the intention of the teachers to maintain the material available so that even the participant can see it repeatedly for a better comprehension of the themes that shape the subject's curriculum. An important aspect to have in mind in distance learning mediated by TyCs are the technological barriers of the users that work as negative factors to the use of the modality. Although it is not a generality one must consider that a relatively important percentage of the students are refractory to new technologies.

Conclusion

From the results and its analysis, it can be inferred that Distance Learning mediated by TyCs is a preferential and essential strategy to the decisive improvement of the Integrated Networks of Health Services through the optimization of the abilities of professional, technicians, nurses, sanitary agents, community agents and administrative of the health effectors of primary care. These tools allow the resolution of the demand in the place of its residency avoiding high costs of transit for the patient and high operational costs for the second level of attention with saturation of the service offer and generating wide waiting lists for the outpatient care. These patients are mostly finally seen in the hospital guards in a contingent and inadequate way for their clinical situation because of the programed waiting lists.

References:


6. De Abreu MP, Torres RM, Penna G, Mutis MCS, Dos Santos F. “El aprendizaje a distancia como una estrategia para la formación de profesionales de la salud en el manejo de Malaria en la región Pan-Amazonica; informe de una experiencia que involucra a todos los países amazónicos”; Universidad Federal de Minas Gerais – Belo Horizonte y Fundación Oswaldo Cruz de Rio de Janeiro, Belo Horizonte, Brasil. 2016.


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