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Telemedicine and eHealth in Poland: A Review
(Polish Telemedicine Society Perspective)

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Abstract: The telemedicine and eHealth implementations have been reported across medical specialties in Poland, but a comprehensive review of these reports is lacking. The aim of this study was to conduct a systematic review of the published literature on telemedicine and eHealth. Ultimately 99 articles met eligibility criteria and were included in the review. The telemedicine and eHealth were implemented and reported mainly in cardiology, pathology, family medicine, oncology, psychiatry, radiology, ENT, orthopaedics and elearning. Despite more frequent deployments of telemedicine and eHealth projects in Poland works published in international journals are still relatively rare.

Introduction

The telemedicine and eHealth implementations have been reported across medical specialties in Poland, but a comprehensive review of these reports is lacking. The aim of this study was to conduct a systematic review of the published literature on telemedicine and eHealth.

Materials and Methods

We conducted a literature search to identify papers reporting experience with the use of telemedicine and eHealth in Poland. Pubmed MEDLINE (1950 to December 2012) and EMBASE (1980 to December 2012) databases were searched. We screened the papers and excluded those that did not have an abstract and those that were not published in English. We reviewed the abstracts and further excluded papers that did not report the actual use of telemedicine or eHealth. Data were extracted from the full text of the remaining articles using predefined data fields. Studies were included if the abstract or core test expressed use of telemedicine or eHealth in Poland. Articles were hierarchized within a specialty category. Publications
were included if they: 1) clearly addressed the issue of telemedicine or eHealth in Poland; 2) reported original findings or reviewed the literature; 3) were published in a peer reviewed journal. Data extraction was done using a predefined form. We collected information about: 1) the year of publication; 2) details of the publishing journal; 3) area of medicine; 4) addressed telemedical technology; 5) the type of publication (original contribution or invited review); 6) methodology (observational or randomized); 7) main results; 8) involvement of Polish Telemedicine Society. Data analysis was semiquantitative.

Results

The literature search produced a total of 211 potential articles, 118 in Pubmed MEDLINE and 93 in EMBASE. Ultimately 99 articles met eligibility criteria and were included in the review. The telemedicine and eHealth were implemented and reported mainly in cardiology, pathology and family medicine. Oncology, psychiatry, radiology, laryngology, orthopaedics and e-learning are less frequently reported as implemented in Poland. The society members were infrequently involved in reviewed papers. Despite more frequent deployments of telemedicine and eHealth in Poland works published in international journals are relatively rare on this topic. The first peer-reviewed publication from the field of Polish telemedicine and eHealth was published in 1995. The number of papers per year was fluctuating, but with is a clear increasing trend since 1999. Papers were written mostly in English (67.4%) or bilingually (11.6%). Papers were published in international journals (76.8%). Impact factor was calculated for 53.5% of the journals (median 1.4 points, range: 0.3-7.1). Papers in 65.8% reported original contribution, including 11 randomized studies. The manuscripts were usually submitted by multiple authors (75.3%), with a median of 3 authors per paper (range: 1-22). Members of Polish Telemedicine Society were involved only in 7 (7.1%) publications. The papers were focused cardiology (19.2%), pathology (14.1%), diabetology (9.1%), family medicine (8.1%) and radiology (7.1%). Due to the large number of included studies and their heterogeneity, it was not possible to present the main findings reported in the reviewed papers neither in a form of a qualitative summary nor a brief description of particular papers.

Discussion

In general, there are a few specialized centers for the implementation of modern ICT technologies in the areas of medicine, such as cardiology, pathology, family medicine, diabetes care, ENT and orthopaedics in Poland. We have observed growing interest in the subject and the problems of
telemedicine and eHealth in the last 5 years. Sixty one articles were published recently. In 1995 the BERMED project linked Virchow-Klinikum in Berlin and Wroclaw Medical University [1]. This cooperation consisted of video conferencing, satellite links connected with the transmission of image data (CT and MRI). In 1999 telemicroscope was used through the Internet for pathology [2]. Overall, 14 papers were found in the field of pathology from 1999 to 2011. Few of them were concerned in use telepathology as a tool for medical education [3]. Recent works mostly concern in image analysis and the collaboration between pathologists [4]. The field of cardiology is well represented. Independent studies presented home monitoring of patients with implanted cardioverter-defibrillators (ICD) [5, 6]. Home telerehabilitation was introduced as the optimal form of physical activity for heart failure patients [7]. The telecardiological, GRID type system Kardionet has been developed and launched to support interventional cardiology [8]. A wearable heart rate variability monitor connected via wireless digital link to a home-embedded infrastructure of multimodal health surveillance system was developed with the coin-size wearable recorder [9]. Several projects in family medicine oriented telemedicine were implemented in lower Silesia [10-13]. A telematic systems aiming at support of diabetes treatment have been designed, developed and implemented [14-16]. Specialized approaches were implemented in ENT [17], radiology [18] and orthopaedics and traumatology [19, 20].

Conclusions

Despite more frequent deployments of telemedicine and eHealth projects in Poland works published in international journals appear relatively rare on this topic. Authors who publish in the field are rarely members of the National Telemedicine Society. Further analysis of the current state of development in this area is needed.

References


