

## LETTER TO EDITOR

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# A New Telemedicine Questionnaire in Pediatrics

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### **ABSTRACT**

Since Corona Pandemic the role of telemedicine became more important. Since years, telemedicine settings were used in adult medicine and to date, in few pediatric hospitals, ambulances and institutions. In 1500 pediatric patients, we performed 120 telemedicine consultations in the last 3 months (8.6%). In 120 consultations, there were only 3 misdiagnosis and in 8 cases, the prescriptions had to be changed. In general, it is necessary that the pediatrician is well trained and has a lot of experience in pediatric medicine. We present a new diagnostic questionnaire for telemedicine in Pediatrics.

### **KEYWORDS**

Telemedicine; Children; Pediatric; Ambulatory; Treatment; Therapy; Questionnaire

### **INTRODUCTION**

In principle, the advantages outweigh the disadvantages in the use of telematics from the point of view of the medical profession, with only a minority pointing out the disadvantages in general. 73 percent of physicians emphasize that the use of telematics in healthcare brings advantages overall, while only 26 percent are convinced that the disadvantages outweigh the benefits. In line with the different assessments of the benefits of individual fields of application of telematics, physicians in private practice are also considerably more reticent about this question than physicians working in inpatient care. 91 percent of hospital physicians, and only 53 percent of physicians in private practice, generally see advantages in the use of telematics. For almost every second physician in private practice, the disadvantages outweigh the benefits. Family doctors in particular express above-average skepticism. Only 48 percent of doctors emphasize the advantages of using telematics, while 50 percent are critical. Among specialists in private practice, the ratio is much more positive, at 56 percent to 41 percent. Younger physicians, in relation to the total of all physicians, are significantly more convinced of the advantages of telematics than older physicians. 87 percent of physicians under the age of 45 are convinced of the advantages in

principle, in contrast to only 58 percent of those who are 55 or older. We present a new telemedicine questionnaire for doctors who work with pediatric diseases.

<b>Telemedicine Questionnaire</b>
<b>Questions Catalog</b>
1.) <u>Age of the child?</u> (Different age groups in pediatrics have different disease spectrum)
2.) <u>Problem the child attends the doctor?</u> (What is the problem?)
3.) Anamnesis includes <u>condition of the child, rash?</u> (Condition of the child, well-being with symptoms or affected by disease; rash is very important and can be a significant sign for a special pediatric disease)
4.) Time the problem started? How long disease progresses? (Important in bacterial/viral differentiation of origin of the disease)
5.) <u>Exact fever analysis, two-times fever measurement?</u> (Temperature is a very important variable to make recommendations about severity of illness)
6.) Clinical pediatric examination: starting from <u>head to feet</u> :
6a) <u>Head</u> : colour face (oxygen degree); lymph nodes (reactive lymphadenitis), eyes (conjunctivitis, conjunctival bleeding), thyroid (goiter), ears (exudation, pus, tragus sign), mouth (candida signs, tonsils), neck (neck pain, meningeal signs).
6b) <u>Thorax</u> : excursions, breathing, jugular withdrawals, distance belt (higher degree of obstruction), support of the auxiliary respiratory muscles (status asthmaticus); (jugular withdrawal shows obstructive pulmonary component, distance belts are possible to recognize also in telemedicine)
6c) Heart auscultation not possible but <u>ECG and analysis of ECG with telemedicine</u> by the pediatrician? (Medical assistant performs ECG, pediatrician controls by telemedicine)
6d) <u>Abdomen</u> : assistant examines the abdominal 4 quadrants by control of pain degree of the child in telemedicine (starting left lower quadrant, then left upper, epigastrium, right upper and at least right lower quadrant), hands lying the body besides, removal of mask to control patients emotional face reactions due to palpation
6e) Examination of umbilicus to diagnose umbilical hernia and the inguinal region to find inguinal hernia (in male/female you see swelling of the inguinal hernia in telemedicine)
6f) Check genitals: testicles inside the scrotum, reddening of the scrotum (orchitis, epididymitis, scrotal torsion), blue dot sign (hydatid), hydrocele (water filling in transillumination), inguinal hernia (swelling).
7) Therapy: Prescribed medications by telemedicine from the Pediatrician
7a) Nurse/Medical Assistant provides prescription in the ambulatory center
7b) Parents/Patients go to pharmacy, treatment begins.

## **DISCUSSION**

It sounds practical and uncomplicated. Instead of driving to a doctor's office and losing time in the waiting room, patients have for some time been able to consult a doctor without leaving their own living room via online portals [1-16]. The providers usually offer same-day appointments [2-9]. Just like doctors in private practice, online doctors also issue sick notes and prescriptions. Online consultations are usually different from a traditional doctor's visit [1-16]. That's because these providers do offer the option of talking to a licensed doctor on the phone or via video. A look at the various provider homepages shows that a face-to-face meeting is not the option that is primarily offered to patients [6,9,12,15]. Most of the websites are structured in such a way that users are not initially presented with a contact field for making an appointment, but with a selection of different diseases. Here they already have to make a preselection. Clicking on an illness opens an online form in which symptoms, previous illnesses and medication are queried according to the multiple-choice principle [12,14]. A phone call with the doctor can be arranged [12,16,17]. But it is not mandatory. The patient can also have it easy and simply have the completed questionnaire checked by a medical professional. The spice of the matter is that in many cases the patient can choose the medications for his or her complaints himself or herself. Many provider sites are structured in such a way that, after the illness has been selected, images of various preparations first appear. Only when the

patient clicks on the desired package does the questionnaire on the symptoms open. With other providers, it works the other way around. However, there always comes a moment when the user selects his or her own product - including prescription-only products. This involves not only contraceptives, but also medicines to treat chronic diseases such as high blood pressure or diabetes. A physician then merely checks the plausibility of the whole thing. In many cases, the patient has to pay for the treatment out of his or her own pocket. So far, only the consultations provided by a small number of online practices can be billed to health insurers. One thing is clear: with the exception of a few pilot projects, drug prescriptions are only issued privately, because there is not yet a comprehensive e-prescription. Telemedicine in pediatrics has played a more important role since the Corona pandemic. Virtual telemedicine allows you to respond quickly to any pediatric problem, and telemedicine saves time, especially in pediatric accidents [1,2,4,7,9,12,17]. Compared to adults, parents are very happy to have urgent information about what to do, where to go, and how to deal with their child [7,8,14,17]. So far, we use telemedicine to see, diagnose and treat the child on an outpatient basis [4,7,8,12,17]. In 1500 pediatric patients, we performed 120 telemedicine consultations in the last 3 months (8.6%). In 120 consultations, there were only 3 misdiagnosis and in 8 cases, the prescriptions had to be changed. In general, it is necessary that the pediatrician is well trained and has a lot of experience in pediatric medicine. Because of this routine, the pediatrician can assess the child's condition, fever, rash, and other characteristics and make recommendations to the parents calmly and without haste. Innovation by telemedicine in pediatrics is based on the clinical experience of the pediatrician [17]. Not every pediatrician can work effectively by virtual telemedicine [17]. In conclusion, virtual telemedicine is an innovative new tool to diagnose and treat children in an ambulatory setting. The new telemedicine questionnaire tool (TQT) helps pediatricians to develop a strategy, how to get higher effectivity and smaller probability of errors in pediatric telemedicine. Further intensive research in this interesting new field is necessary.

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