Remote Oncological Services provided through a self triage and televisit in Puglia Region: the IHES system.

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• Background and objectives

The humanization and territorialization of clinical services are two of the main drivers for the innovation of the healthcare system after the pandemic [1]. The IHES - Innovative Health EcoSystem projects implemented and validated a new integrated platform for remote oncological services to increase efficiency and satisfaction of clinicians and patients. The project exploits the optimization of oncological services through the remote visit the day before chemotherapy in a health pod placed in a territorial center close to patients.

• Materials and methods

The IHES platform integrates the CAPSULA Clinic Health Pod with the TIM HOME DOCTOR televisit. The system included:

- "SWELAB" analyzer for blood count examination by capillary or venous sampling for measuring the white blood cell count and leukocyte formula in [%] and absolute value and distribution of sub populations, red blood cell count, hemoglobin, hematocrit, mean corpuscular volume, mean corpuscular hemoglobin and concentration, depth of distribution of red blood cells; platelets and their volume values.
- Abbott® i-STAT device for the determination of renal function, oximetry, cardiac enzymes and capillary glycemia.
- 5-lead electrocardiogram.
  2-lead SpO_2 / ECG sensor.
- body temperature and blood pressure devices.
- Scale and posture sensor with a bio-impedance meter.

The complete system is certified as assembly of medical device. In the IHES Pod patients are identified, can fill in the anamnestic questionnaire, carry out the physiological measurements in a self-procedure, and undergo the blood analysis with the assistance of a nurse. In a few minutes, all the parameters are available, automatically uploaded in the electronic health record of the patient and a tele-visit with the oncological center can be carried out for the clinical decision about chemotherapy. In case of positive assessment, the patient is given the admittance to the next morning for the immediate treatment, otherwise the nurse provides the medical treatments for the next check-up and can go home.
Currently, 4 patients tested the system and the innovative tele-oncological services.

• Results

For this preliminary assessment of the operative protocol, we selected n. 4 patients previously diagnosed of lymphoproliferative and myeloproliferative disorders (e.g., chronic lymphatic leukemia, multiple myeloma, and Waldenström macroglobulinemia) assuming oral therapy (not endo-venous chemotherapy).

Overall, each tele-visit was completed in 25 minutes reaching 100% of efficacy of the clinical decision. We recorded the full-assessment compliance to the recognized guidelines about telemedicine [2, 3].

• Conclusions

The IHES project demonstrated the feasibility, efficiency and user satisfaction of the remote oncological service. The Health Technology Assessment analysis of this innovative product-service system demonstrated the equivalence with the clinical standards so suggesting its further adoption to save human and budget resources with increased perceived quality of life for the patients.

• References

1. Andreoni G, Caiani EG, Castaldini N. Digital Health Services through Patient Empowerment: Classification, Current State and Preliminary Impact Assessment by Health Pod Systems. Applied Sciences. 2022; 12(1):359.
2. “Conferenza Stato-Regioni” n. 16 of the 20/02/2014
3. “Conferenza Stato-Regioni” n. 215 del 17/12/2020

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