

Mobile System for the Management of Hypertension in Remote Patients and Evaluation of the Risk Markers for Hypertension-Related Complications

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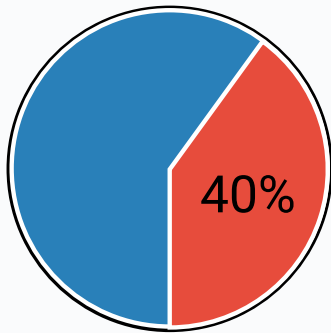
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Hypertension as a socially important disease



Long episodes of high arterial blood pressure have a negative impact to the economy.



An extremely prevalent disease and the percentage of hypertensive patients is forecasted to grow.



The primary or contributing cause of death due to the numerous life-threatening complications

Problem of a low adherence to the treatment in hypertensive patients



Estimation of the new complication risk markers

1. A lot of ECG parameters considered to be the CV risk markers.
2. Studied insufficiently and not widely confirmed.
3. 1) heart rhythm disturbances such as arterial fibrillation, premature ventricular contraction and others; 2) heart blocks; 3) heart rate; 4) P wave duration; 5) P wave amplitude; 6) P wave morphology, in particular, two-phase shape; 7) PQ interval duration; 8) QT dispersion; 9) Q width; 10) R amplitude; 11) S amplitude; 12) QRS width; 13) QT duration; 14) T wave amplitude; 15) T wave alternation; 16) T wave width and “T peak – T end” parameter; 17) ST elevation; 18) ST decrease; 19) rhythm turbulence; 20) heart rate variability.
4. Along with regular log of health status and complaints.

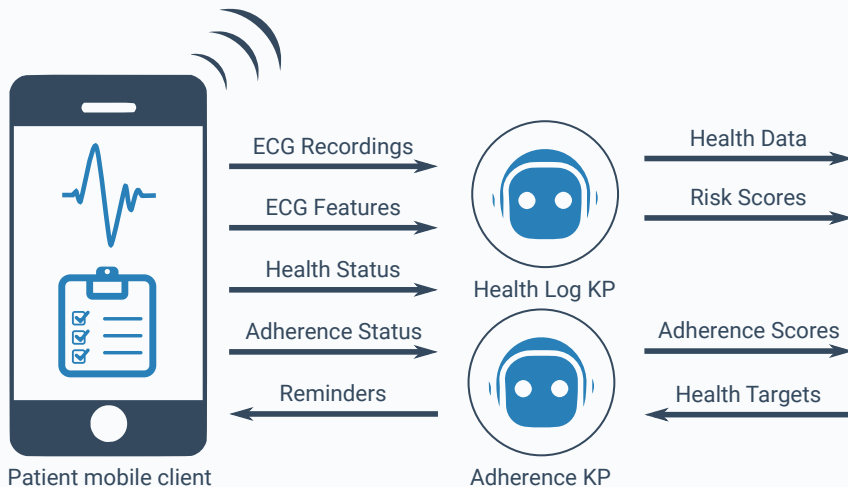
Increasing the adherence to the treatment

- The use of the intellectual background assistants.
- Continuous collecting and analysis of health parameters.
- Collecting of the information characterizing his environment and a way of life.
- Help the doctor to make decisions on therapy change.
- Stimulate and assess the adherence to the treatment.
- Simplified questionnaires for the purpose of information transfer in a convenient and available form via phone.

A simplified questionnaire for the regular health status audit

1. How do you estimate your health state?
2. Whether you had experienced headaches?
3. Whether you had experienced the chest pain or discomfort in heart?
4. Whether you had the interruptions in work of heart or heartbeat?
5. Whether you had experienced the difficulty breathing?
6. Whether the physical activity was interrupted in connection with an illness?
7. Whether you take your medications regularly?
8. Whether you had the sleep disorders owing to the illness?

Mobile system operation



Conclusion

1. There is a problem of low adherence of the hypertensive patients to prevention and treatment.
2. The solution of this problem can be on the systems of personal recommendations (intellectual assistants).
3. This approach leads to minimization of risk of complications due to improvement of prevention, early diagnostics, forecasting of development of the disease.
4. Up to the 300 hypertensive patients were selected for control group. The examination included the natural history analysis, the assessment of usual risk factors, organ damage analysis, blood pressure variability between visits, adherence to treatment according to existing indexes and questionnaires.
5. The mobile system with the advantages of smart spaces have been designed to address the low adherence problem and to help to gather wide health logs with ECG recordings.

Thank you for your attention!



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