

International Science Group
ISG-KONF.COM

PROSPECTS FOR THE
DEVELOPMENT OF MODERN
SCIENCE AND PRACTICE

11
MAY
12

XVI SCIENTIFIC AND
PRACTICAL
CONFERENCE
GRAZ, AUSTRIA



DOI 10.46299/ISG.2020.XVI
ISBN 978-1-64871-445-0

PROSPECTS FOR THE DEVELOPMENT OF MODERN SCIENCE AND PRACTICE

Abstracts of XVI International Scientific and Practical Conference

Graz, Austria
11-12 May, 2020

Library of Congress Cataloging-in-Publication Data

UDC 01.1

The 16 th International scientific and practical conference «PROSPECTS FOR THE DEVELOPMENT OF MODERN SCIENCE AND PRACTICE» (11-12 May, 2020). Graz, Austria 2020. 418 p.

ISBN - 978-1-64871-445-0

DOI 10.46299/isg.2020.XVI

Published on **Bookwire™**
by Bowker
<https://www.bookwire.com/>

Text Copyright © 2020 by the International Science Group(isg-konf.com).

Illustrations © 2020 by the International Science Group.

Cover design: International Science Group(isg-konf.com). ©

Cover art: International Science Group(isg-konf.com). ©

The content and reliability of the articles are the responsibility of the authors. When using and borrowing materials reference to the publication is required.

Collection of scientific articles published is the scientific and practical publication, which contains scientific articles of students, graduate students, Candidates and Doctors of Sciences, research workers and practitioners from Europe, Ukraine, Russia and from neighboring countries and beyond. The articles contain the study, reflecting the processes and changes in the structure of modern science. The collection of scientific articles is for students, postgraduate students, doctoral candidates, teachers, researchers, practitioners and people interested in the trends of modern science development.

The recommended citation for this publication is:

Abousetta V., Mobile application for testing fine motor skills of children // Prospects for the development of modern science and practice. Abstracts of XVI international scientific and practical conference. Graz, Austria 2020. Pp. 13-16.

URL: <http://isg-konf.com> .

MODULE FOR PSYCHOLOGICAL ASSESSMENT OF THE PATIENT READINESS FOR SURGICAL OPERATIONS

Hannawi A.

student,

Master's Degree

Department of Biomedical Engineering

Kharkiv National University of Radio Electronics

Psychological problems that arise in the work of a surgeon have always attracted the attention of various specialists. The medical psychologist focuses on the mental reactions of a diseased person [1]. Of great importance is the analysis of their clinical features, assessment of factors that contribute to the emergence of a particular person a specific type of mental reactions to the disease [2].

Complex surgery operations may be accompanied by prolonged rehabilitation and sometimes disability of the patient. Therefore, the medical psychologist should analyze social connections and relationships in the family and at work, provide regular psychological support to the patient from diagnosis to completion of rehabilitation, monitoring the dynamics of psycho-emotional state and psychological reactions to the disease [3]. An essential component of the work of a medical psychologist is psychotherapeutic work, which is carried out with the patient at all stages of the disease and includes psycho-correction and rehabilitation [3-4].

There are different psychological methods computerized systems for analysis psychophysical and emotional characteristics of patients, children, students, drivers, pilots, military, doctors, etc. [4-11]. These researches include development program modules, methods, software and hardware complexes, and methodologies for automated analysis physical and physiological parameters in psychology, psychoneurology, psychophysiology, neurology, also surgery for planning different operations [4-13].

It is known, the psychological readiness of patients for surgery operation is not the same. At chronic somatic pathology, the patient gradually adapts to the status and understands expediency and necessity of the performance of diagnostic and medical manipulations. The fundamental difference is that in chronic somatic diseases adaptation occurs to the current state of the disease. Therefore, to need before planning of surgery operation testing of the psycho-emotional state of the patient. In general, the process of the testing subject for assessing readiness for surgical operations is shown in fig. 1.



Figure 1 – Schematic example of testing patient’s readiness for surgical operations

During working with a patient, a medical psychologist can use a questionnaire to determine the types of patients' attitudes to the disease. All variants of behavioral reactions largely depend on the way the patient adapts to the disease and on the internal picture of the disease formed by him. A.Ye. Lychko and N.Ya. Ivanov proposed a classification of response types, based on an assessment of three factors: the nature of the disease, premorbid personality type of the patient (and too accentuated traits) and the attitude to this disease of the patient's social environment (family, team, and friends). According to this classification system, all types of reactions can be divided into three blocks. The first block is reactions that do not violate social adaptation; the second block is intrapsychic reactions; the third block is interpsychic reactions. Considering all this information we developed program module for automated analysis of parameters of the patient’s psycho-emotional state. Surgery by its nature almost always causes a person not only a local pain reaction, but also generates a range of different emotional experiences. Fig. 2 represents 6 series blocks of this module for execution process of testing.

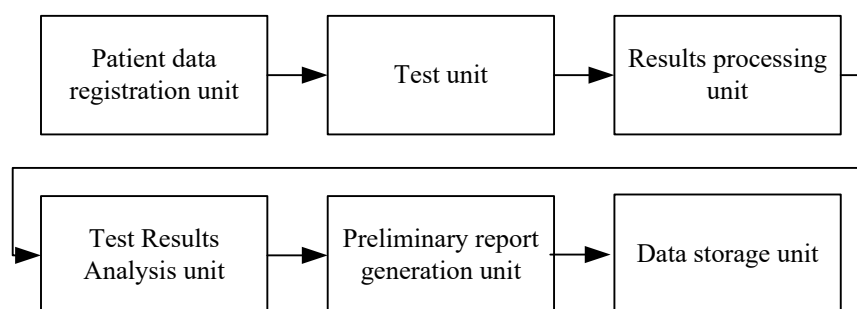


Figure 2 – A block-diagram of the developed program module for assessment readiness patients for surgical operations

After finished testing process, a medical psychologist can assistance patient for control his mental and emotional state. Thus, the medical psychologist uses this program module; know the plan of his work with the patient, taking into account all

specific stages of surgical care. The obtained results show the need for using integrated indicators in assessing readiness patients for surgical operations.

References

1. Кутько И.И. Актуальные проблемы реабилитации на современном этапе / И.И. Кутько, О.А. Панченко // Вісник психіатрії та психофармакотерапії. – 2005. – №1 (7). – С. 9-11.
2. Панченко О.А. Медицинские осмотры как инструмент увеличения продолжительности жизни в Украине / О.А. Панченко, М.В. Гаража, О.П. Харламова, А.В. Кабанцева // Містобудування та територіальне планування, КНУБА, 2015. – 56. – С. 12-14.
3. Кабанцева А. В. Информатизация процесса психодиагностики / А. В. Кабанцева, К. Г. Селиванова // Інформаційні системи та технології в медицині: зб. наук. пр. II Міжн. наук.-прак. конф. (ICM-2019). – Харків: Нац. аерокосм. ун-т ім. М.Є. Жуковського «Харків. Авіа. Ін.-т», 2019. – С. 41-43.
4. Selivanova, K. Determination of the basic parameters of sensor devices for the implementation of psychoneurological research with the introduction of multitouch technology / K. Selivanova, O. Avrunin, N. Kazimirov // Innovative Technologies and Scientific Solutions for Industries, 2020. No. 1 (11), P. 147–155.
DOI: <https://doi.org/10.30837/2522-9818.2020.11.147>.
5. Karina G. Selivanova, Olena V Ignashchuk, Leonid G Koval, Volodymyr S Kilivnik, Alexandra S Zlepko, Daniel Sawicki, Aliya Kalizhanova, Aizhan Zhanpeisova, Saule Smailova. Computer-aided system for interactive psychomotor testing // Photonics Applications in Astronomy, Communications, Industry, and High Energy Physics Experiments. Proc. of SPIE – Proceedings Volume 10445, – 2017. – 104453B. DOI: <https://doi.org/10.1117/12.2280815>.
6. Selivanova K. Computerized system for determination of the psychological readiness of the civil aviation students in emergency situations / K. Selivanova, O. Solovyova, Y. Semerenko // The 14th International scientific and practical conference «ACTUAL PROBLEMS OF SCIENCE AND PRACTICE» (27-28 April, 2020). Stockholm, Sweden 2020. – P. 137-141.
7. Селиванова К. Г. Компьютерная система интерактивного тестирования психомоторики / К. Г. Селиванова // Полиграфические, мультимедийные и web-технологии. Т.1. Тез. Докл. 1-й Международной науч.-техн. конф. – Харьков: ХНУРЭ, 2016. – С. 81-82.
8. Селиванова К. Г. Внедрение multi-touch технологии для реализации интерактивного тестирования в психоневрологии / К. Г. Селиванова, М. Ю. Тымкович, О. Г. Аврунин // Фізичні процеси та поля технічних і біологічних об'єктів : матеріали XVII Міжнародної науково-технічної конференції. – Кременчук : КРНУ, 2018. – 236 с. – С. 121– 122
9. Кабанцева А.В. Адаптованість водіїв до виконання професійної діяльності / А.В. Кабанцева // Науковий вісник Херсонського державного університету. Серія «Психологічні науки»: зб. наук. пр. – Херсон: «Видавничий дім «Гельветика», 2016. – № 5. – Т.2. – С. 155-159.
10. Лебедев В.В. Застосування multi-touch технології для експрес-оцінювання рівня стресостійкості льотного складу повітряних суден / В.В.

Лебедев, К.Г. Селіванова // Збірник тез доповідей II Всеукраїнської науково-практичної конференції молодих учених, курсантів та студентів «Авіація, промисловість, суспільство» – Кременчук, 2019. – 464 с. – С 265-266.

11. Панченко О.А. Применение внутривенного лазерного облучения крови в комплексном лечении невротических и связанными со стрессами расстройств / О.А. Панченко, Т.Э. Чумак, В.Н. Березовський // Український вісник психоневрології. – 2012. – Т. 20, вип. 3 (72). – С. 210.

12. Тымкович М. Ю. Оптический метод регистрации пространственного положения хирургического инструмента в компьютерной навигационной системе / М. Ю. Тымкович // Вестник Нац. техн. ун-та "ХПИ" : сб. науч. тр. Темат. вып. : Новые решения в современных технологиях. – Харьков : НТУ "ХПИ". – 2013. – № 18 (991). – С. 124-130.

13. Тымкович М.Ю. Разработка навигационной системы для ринохирургии / М.Ю. Тымкович, О.Г. Аврунин, Х. Фарук // Энергосбережение, энергетика, энергоаудит.–2013. –№8 (114). –С. 116–123.