

THE TWENTY-YEAR RISE OF PSYCHIATRIC SCIENCE IN MOSTAR

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INTRODUCTION

The first department for neuropsychiatry consisting of five hospital beds was opened in Mostar in 1962. Apart from the medical staff, the department did not have at its disposal any special diagnostic tests and procedures. Only one neuropsychiatrist (Dr Ante Herceg) was employed at the department, and he completed his specialization in Zagreb. Dr Herceg headed the department and performed daily activities alongside running the outpatient clinic at the Health Centre Mostar. Prior to that, neurological and psychiatric patients were treated at the Department of Internal Medicine and other departments in Mostar, and more severe cases were referred to the neuropsychiatric hospital in Sarajevo, or rarely to Zagreb and Belgrade.

In the mid-80s, special departments within neurology and psychiatry were separated but neuropsychiatric specialists worked on both departments. During the last war (1992-95), neuropsychiatry in Mostar was devastated and declined dramatically. At the time, neuropsychiatric science and scientific work in Mostar were at its minimum. There was only one university professor, Dr Džemal Džudža who dealt mainly with neurology and one doctor of science, a neuropsychiatrist, Muliya Džudža who dealt mainly with psychiatry. Scientific activities were very rare and at a relatively low levels.

After the last war (1997), the School of Medicine was established within the University of Mostar and at the same time specializations separated to psychiatry and neurology. The establishment of the School of Medicine in Mostar and the arrival of "world-class professors" mostly from the Republic of Croatia gave great impetus to the development of science in all disciplines and today it is safe to say that post-war psychiatry in scientific terms belongs to the top of Mostar and Bosnia and Herzegovina's scientific achievements. Psychiatrists from Mostar organise and actively participate in numerous scientific conferences, international psychiatric projects, write and publish scientific papers, publish books, and in various ways motivate and arouse the interest of students and younger colleagues in psychiatry and psychiatric science. The objective of this study is to briefly present the development and success of post-war psychiatric science in Mostar.

SCIENTIFIC GATHERINGS

Thanks to the head of the course Professor Miro Jakovljević, psychiatry lectures are motivating for both the students and teaching assistants, many of whom enrol in doctoral studies. Today in Mostar we have five doctors of science in the field of psychiatry, and soon seven more psychiatrists should receive their doctoral degrees.

Thanks to the Department of Psychiatry at the School of Medicine in Mostar, the international one-day symposium Mostar Psychiatric Saturday was organized for the first time in 2004 on the topic: Personality, Anxiety and Depression in Modern Medicine and Psychiatry. The Mostar Psychiatric Saturday is organized 16 years in a row, every first Saturday in June and each symposium addresses one current topic (Babić et al. 2014, 2017). After three symposiums, materials were printed in books and became university textbooks at the School of Medicine in Mostar (Jakovljević 2006, 2008, 2010).

Thanks to the experience gained through organization of psychiatric Saturdays, very positive evaluations for the organizers, and some fortunate circumstances in Mostar, we were able to organize a regional European psychiatric congress. In the period from October 5 to October 8, 2008, the 23rd Danube Psychiatry symposium was held in Mostar on the topic: Brave new integrative psychiatry: from early recognition to successful treatment. The congress was attended by over 200 participants from 11 countries from Europe and Africa. All members of the Department of Psychiatry took an active role in this regional European congress and thus demonstrated our strength and position in modern academic psychiatry and positively promoted Mostar psychiatry in this part of Europe. According to the presidency of the Association of Psychiatrists of Bosnia and Herzegovina (B&H), the Mostar Psychiatric Saturday is one of the most important psychiatric events in B&H. The number of lectures at psychiatric Saturdays from our department increases year after year, our lectures are better in quality and more noticeable, and teachers from our department receive frequent guest speaker invitations for psychiatric events in the region. The number of scientific and professional papers we publish also increases year after year. Considering all the positive facts, we can rightly say that the Mostar Psychiatric Saturday was and remains the beacon

of Mostar's academic psychiatry and even medicine in general. In addition to local and regional events, psychiatrists from Mostar have participate in numerous European (Jakovljević et al. 2010, Babić et al. 2014) and international psychiatric congresses (Jakovljević et al. 2007b,c, Babić et al. 2013).

The 13th and 14th Psychiatric Days of Bosnia and Herzegovina were held in Mostar and the plan is that the Congress of Psychiatrists of Bosnia - Herzegovina is to be held in Mostar in 2021/22.

INTERNATIONAL PSYCHIATRIC PROJECTS

Our psychiatrists have so far participated in several international projects and since then published numerous papers in highly indexed journals. I would single out the following projects:

- The psychological processes and traumatic stress reactions in war and torture survivors. Leader of this international project was Professor Metin Basoglu, London, Gret Brytany (1999-2005).
- “Metabolic syndrome and physical illness in schizophrenic patients”, project of the Federal Ministry of Education and Science of Bosnia and Herzegovina (project leader, Professor Dragan Babić; 2007-2011). The following works were published as a part of this project: Jakovljević et al. 2006, 2007a, Babić et al. 2007, 2010, Maslov et al. 2008, 2009, Martinac et al. 2014, 2017, Pavlović et al. 2013, Babić R et al. 2013.
- “Comorbidity of mental disorders and physical illnesses”, project of the Federal Ministry of Education and Science of Bosnia and Herzegovina (project leader, Professor Dragan Babić; 2011-2013). The following works were published as a part of this project: Martinac et al. 2014, 2018, Pavlović et al. 2015, 2016, Bjelanović et al. 2015.
- “Molecular mechanisms of posttraumatic stress disorder” (the head researcher for Mostar and leader of this regional European project was Professor Jurgen Deckert, Wuerzburg, Germany; 2013-2019). The following works were published as a part of this project: Kulenović et al. 2017, 2019, Ziegler et al. 2017, two papers in highly indexed journal *Nature Communications* (Nievergelt et al. 2018, 2019), and one paper in *Sleep* (Lind et al. 2020). Thanks to this project, nine doctoral students from B&H, Republic of Croatia and Kosovo published their scientific papers in the journal *Psychiatria Danubina* (Muminović et al. 2019, Goci et al. 2019, Kučukalić et al. 2019, Ferić et al. 2019, Jakšić et al. 2019, Hoxha et al. 2019, Haxibeqiri et al. 2019, Kravić et al. 2019, Haxibeqiri et al. 2019).

OTHER ACTIVITIES

Psychiatric teaching staff is involved in the teaching process at five faculties of the University of Mostar, and this way they are able to promote psychiatry as a scien-

tific discipline and a profession. So far, they have mentored hundreds of bachelor, master and doctoral theses with predominantly psychiatric topics. A number of scientific papers were published in highly indexed psychiatric journals (Dilber et al. 2016, Šimunović et al. 2017, Cigić et al. 2015). Apart from the Faculty of Medicine, psychiatry is gaining more and more importance and a role at the Faculty of Health Studies, the Study of Social Work at the Faculty of Social Sciences and Humanities, and Department of Criminology of the Faculty of Law, and for these purposes our psychiatrists have written books that have the status of university textbooks (Babić 2016, 2018, 2020, Klarić 2017). The Dean of the Faculty of Health Studies, Professor Ivan Vasilj on two occasion (2017 and 2020) managed to obtain a guest editor for the Supplement of *Psychiatria Danubina* thus enabling our teachers and assistants to write and publish papers in this Current Contents journal. So far, a few dozens of our teachers have published in this journal (Babić et al. 2017, Ravlija et al. 2017, Šimić et al. 2017, Vukojević et al. 2017, Šimunović et al. 2017, Vasilj et al. 2017, Mirković Hajduković et al. 2017, Rastović et al. 2017, Markotić et al. 2017, Gunarić et al. 2017). This year commenced with the publication of two psychiatric papers in highly indexed world-known psychiatric journals (Kuzman et al. 2020, Lind et al. 2020), and an additional thirteen papers will soon be published in the new Supplement of the *Psychiatria Danubina*.

A great contribution to the development of psychiatric science in Mostar was made by Professor Miro Jakovljević, who taught us all sciences, and also wrote numerous scientific papers. These are just some of the last few years (Jakovljević 2016, 2017, Jakovljević & Ostojić 2016, Jakovljević et al. 2018, 2019, 2020).

CONCLUSION

In the last few decades, the number of lecturers from the Department of Psychiatry is increasing at different local, regional, European, and international events, and teachers from our department receive frequent guest speaker invitations for psychiatric events in the region. The number of published scientific and professional works is also increasing every year, so we can safely conclude that the psychiatric science in Mostar has experienced a positive post-war rise and growth which certainly alongside other factors contributes and helps treat people with mental disorders.

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Contribution of individual authors:

Dragan Babić & Marko Martinac: concept and design of article, literature searches, writing manuscript, approval of final version.

References

1. Babić D, Jakovljević M, Martinac M, Sarić M, Topić R & Maslov B: Metabolic syndrome and combat post-traumatic stress disorder intensity: preliminary findings. *Psychiatr Danub* 2007; 19:68-75
2. Babić D, Maslov B, Martinac M, Nikolić K, Uzun S & Kozumplik O: Bipolar disorder and metabolic syndrome: comorbidity or side effects of treatment of bipolar disorder. *Psychiatr Danub* 2010; 22:75-8
3. Babić D: Psychiatric Saturday in Mostar: the torchbearer of Mostar academic medicine. *Psychiatr Danub* 2014; 26:409-10
4. Babić D i sur.: Psihoaktivne tvari: duševni poremećaji i poremećaji ponašanja vezani uz uporabu psihoaktivnih tvari. Mostar: Sveučilište u Mostaru, 2016
5. Babić D i sur.: Psihijatrija: odabrana poglavlja. Mostar: Sveučilište u Mostaru, 2018
6. Babić D i sur.: Psihologija u medicini i zdravstvu. Mostar: Sveučilište u Mostaru, 2020
7. Babić D, Vasilj I & Mimica M: The Faculty of Health Studies at University of Mostar in the service of health. *Psychiatria Danub* 2017; 29:96-100
8. Babić R, Maslov B, Babić D & Vasilj I: The prevalence of metabolic syndrome in patient with posttraumatic stress disorder. *Psychiatr Danub* 2013; 25:45-50
9. Bjelanović V, Babić D, Tomić V, Martinac M, Tomić M & Kuvacić I: Metabolic syndrome and psychological symptoms in pathological pregnancy. *Psychiatr Danub* 2009; 21:589-93
10. Cigic D, Cavar I, Babić D, Vasilj I & Martinac M: Relationship Between Emotional Intelligence and Personality Types with Success in School. *Eur Psychiatry* 2015; 30(Suppl 1):1526
11. Dilber R, Babić D, Vasilj I, Martinac M, Babić R & Aukst-Margetić B: Religiosity and Mental Health in Nursing Students. *Psychiatr Danub* 2016; 28:188-92
12. Džubur Kulenovic A, Agani F, Avdibegovic E, Jakovljevic M, Babić D, Kucukalic A et al.: Molecular Mechanisms of Posttraumatic Stress Disorder (PTSD) as a Basis for Individualized and Personalized Therapy: Rationale, Design and Methods of the South Eastern Europe (SEE)-PTSD study. *Psychiatr Danub* 2016; 28:154-63
13. Ferić Bojić E, Kućukalić S, Džubur Kulenović A, Avdibegović E, Babić D, Agani F et al.: Associations of Gene Variations in Neuropeptide Y and Brain Derived Neurotrophic Factor Genes with Posttraumatic Stress Disorder. *Psychiatr Danub* 2019; 31:227-34
14. Goçi Uka A, Agani F, Blyta A, Hoxha B, Haxhibeqiri S, Haxhibeqiri V et al.: Role of the Allelic Variation in the 5-Hydroxytryptamine Receptor 1A (HTR1A) and the Tryptophan Hydroxylase 2 (TPH2) Genes in the Development of PTSD. *Psychiatr Danub* 2019; 31:256-62
15. Haxhibeqiri V, Haxhibeqiri S, Topciu-Shufta V, Agani F, Goci Uka A, Hoxha B et al.: The Association of Catechol-O-Methyl-Transferase and Interleukin 6 Gene Polymorphisms with Posttraumatic Stress Disorder. *Psychiatr Danub* 2019; 31:241-8
16. Haxhibeqiri S, Haxhibeqiri V, Agani F, Goci Uka A, Hoxha B, Džubur Kulenovic A et al.: Association of Neuropeptide S Receptor 1 and Glutamate Decarboxylase 1 Gene Polymorphisms with Posttraumatic Stress Disorder. *Psychiatr Danub* 2019; 31:249-55
17. Hoxha B, Goçi Uka A, Agani F, Haxhibeqiri S, Haxhibeqiri V, Sabić Džananovic E et al.: The Role of TaqI DRD2 (rs1800497) and DRD4 VNTR Polymorphisms in Posttraumatic Stress Disorder (PTSD). *Psychiatr Danub* 2019; 31:263-8
18. Jakovljević M i sur.: Ličnost, tjeskoba i depresija u suvremenoj medicini. Zagreb: Pro Mente d.o.o., 2006
19. Jakovljević M, Crncević Z, Ljubicić D, Babić D, Topić R & Sarić M: Mental disorders and metabolic syndrome: a fatamorgana or warning reality? *Psychiatr Danub* 2007a; 19:76-86
20. Jakovljević M, Babić D, Martinac M, Šarić M, Topić R & Maslov B: Metabolic syndrome and combat posttraumatic stress disorder. Santiago, Chile: 2nd International Congress of Biological Psychiatry, 2007b
21. Jakovljević M, Babić D, Martinac M, Maslov B & Topić R: Metabolic syndrome in war veterans with posttraumatic stress disorder with and without depression comorbidity. Santiago, Chile: 2nd International Congress of Biological Psychiatry, 2007c
22. Jakovljević M i sur.: Nove ideje i koncepti u suvremenoj psihijatriji. Zagreb: Pro Mente d.o.o., 2008a
23. Jakovljević M, Babić D, Crncević Z, Martinac M, Maslov B & Topić R: Metabolic syndrome and depression in war veterans with post-traumatic stress disorder. *Psychiatr Danub* 2008b; 20:406-10
24. Jakovljević M i sur.: Duhovnost u suvremenoj medicini i psihijatriji. Zagreb: Pro Mente d.o.o., 2010
25. Jakovljević M: Komorbiditet, rezilijencija i epigenetika iz perspektive prediktivne i preventivne personalizirane medicine. (Engl. Comorbidity, epigenetics and resilience in psychiatry and medicine from a transdisciplinary integrative perspective). Pro Mente, Zagreb, 2019
26. Jakovljević M & Ostojić Lj: Science and pseudoscience in medicine: evidence-based medicine vs evidence biased medicine. *Medicina Academica Mostariensia* 2016; 4:2-6
27. Jakovljević M: Public and global mental health promotion for empathic civilisation: A new goal of Psychiatria Danubina. *Psychiatr Danub* 2016; 28:312-4
28. Jakovljević M: Psychiatry and religion: opponents or collaborators? The Power of Spirituality in Contemporary Psychiatry. *Psychiatr Danub* 2017; 29:82-8
29. Jakovljević M et al: Medical hodegetics – almost forgotten art and science of upbringing medical doctors. *Medicina Academica Mostariensia* 2018; 6:2-8
30. Jakovljević M et al: Spirituality, religiosity and nationalism from the perspective of public and global mental health. *Psychiatr Danub* 2019; 31:382-91
31. Jakovljević M et al: COVID-19 pandemia and public and global mental health from the perspective of global health security *Psychiatria Danubina* 2020; 32:6-14
32. Jaksic N, Šabić Džananović E, Aukst Margetić B, Rudan D, Cima Franc A, Božina N et al.: A Candidate Gene Association Study of FKBP5 and CRHR1 Polymorphisms in Relation to War-Related Posttraumatic Stress Disorder. *Psychiatr Danub* 2019; 31:269-75
33. Klarić M i sur.: Rad s grupom u sestriinstvu. Mostar: Sveučilište u Mostaru, 2017
34. Kovač Z: Umrežavanje etiopatogenetskih putova u komorbiditetu, otpornosti i epigenetiki. Rezilijencija i epigenetika. U: Jakovljević M. Komorbiditet, rezilijencija i epigenetika iz perspektive i prediktivne personalizirane medicine.

- (Engl. Networking of Ethiopathogenetic Pathways in Comorbidity, Resilience and Epigenetics In: Jakovljević M. Comorbidity, Resilience and Epigenetics from the Perspective of Predictive and Personalized Medicine). *Pro Mente*, Zagreb, 2019
35. Kravić N, Šabić Džananović E, Muminović Umihanić M, Džubur Kulenović A, Sinanović O, Jakovljević M et al.: Association Analysis of Maoa and Slc6a4 Gene Variation in South East European War Related Posttraumatic Stress Disorder. *Psychiatr Danub* 2019; 31:211-8
 36. Kućukalić S, Ferić Bojić E, Babić R, Avdibegović E, Babić D, Agani F et al.: Genetic Susceptibility to Posttraumatic Stress Disorder: Analyses of the Oxytocin Receptor, Retinoic Acid Receptor-Related Orphan Receptor A and Cannabinoid Receptor 1 Genes. *Psychiatr Danub* 2019; 31:219-26
 37. Kuzman Z, Mlinarevic-Polic I, Aleric I, Katalinic D, Vcev A & Babic D: Clinical evaluation of psychiatric and behavioral disorders in adolescents with epilepsy: a cross-sectional study. *Nord J Psychiatry* 2020; 74:352-8
 38. Lind MJ, Brick LA, Gehrman PR, Duncan LE, Gelaye B, Maihofer AX et al.: Molecular genetic overlap between posttraumatic stress disorder and sleep phenotypes. *Sleep* 2020; 43:zsz257
 39. Martinac M, Pehar D, Karlović D, Babić D, Marcinko D & Jakovljević M: Metabolic syndrome, activity of the hypothalamic-pituitary-adrenal axis and inflammatory mediators in depressive disorder. *Acta Clin Croat* 2014; 5:55-71
 40. Martinac M, Babić D, Bevanda M, Vasilj I, Bevanda Glibo D, Karlović D et al.: Activity of the hypothalamic-pituitary-adrenal axis and inflammatory mediators in major depressive disorder with or without metabolic syndrome. *Psychiatr Danub* 2017; 29:39-50
 41. Martinac M, Babic D, Pavlovic M, Babic R: Big five personality characteristics and metabolic syndrome in patients with major depressive disorder. *European Psychiatry* 48, S278-S278
 42. Maslov B, Jakovljević M, Crncević Z, Ostojić L, Marcinko D, Babić D et al.: Metabolic syndrome and schizophrenia from integrative medicine perspective. *Psychiatr Danub* 2008; 20:384-9
 43. Maslov B, Marcinko D, Milicevic R, Babić D, Dordević V & Jakovljević M: Metabolic syndrome, anxiety, depression and suicidal tendencies in post-traumatic stress disorder and schizophrenic patients. *Coll Antropol* 2009; 33:7-10
 44. Muminovic Umihanic M, Babic R, Kravic N, Avdibegovic E, Dzubur Kulenovic A, Agani F et al.: Associations between Polymorphisms in the Solute Carrier Family 6 Member 3 and the Myelin Basic Protein Gene and Posttraumatic Stress Disorder. *Psychiatr Danub* 2019; 31:235-40
 45. Nievergelt CM, Maihofer AX, Klengel T, Atkinson EG, Chen CY, Choi KW et al.: Largest genome-wide association study for PTSD identifies genetic risk loci in European and African ancestries and implicates novel biological pathways. *bioRxiv* 2018; doi:10.1101/458562
 46. Pavlović M, Babić D, Rastović P, Babić R & Vasilj M: Metabolic Syndrome, Total and Differential White Blood Cell Counts in Patients with Schizophrenia. *Psychiatr Danub* 2016; 28:216-22
 47. Pavlovic M, Kreisc Coric M, Babic D, [...], Buric S: Epidemiological Characteristics of Suicidal Patients Hospitalized at the Psychiatric Clinic of the University Clinical Hospital Mostar in the Period 2004-2013. March 2015. *European Psychiatry*
 48. Pavlovic M, Babic D, Rastovic P: Association of white blood cell and neutrophil counts with metabolic syndrome in schizophrenic patients. Article. Dec 2014. *European Psychiatry*
 49. Pavlović M & Babić D: Metabolic syndrome and fibrinogen concentration in patients with schizophrenia. Dec 2013. *European Psychiatry*
 50. Pavlovic M, Babic D, Rastovic P: The Prevalence of Metabolic Syndrome in Patients with Schizophrenia. March 2015. *European Psychiatry*
 51. Ravlija J, Vasilj I, Babić D & Marijanović I: Public health achievements and challenges: symposium of the University of Mostar Faculty of Health Studies. *Psychiatr Danub* 2017; 29Suppl 2:101-3
 52. Šimić D, Penavić JZ, Babić D & Gunarić A: Psychological status and quality of life in acne patients treated with oral isotretinoin. *Psychiatr Danub* 2017; 29Suppl 2:104-10
 53. Šimunović M, Tokmakčija S, Pavlović M, Babić R, Vasilj M, Martinac M et al.: The Impact of Religiosity on Quality of Life and Psychological Symptoms in Chronic Mental Patients. *Psychiatr Danub* 2017; 29:118-23
 54. Vasilj M, Klarić M, Vrkić N, Mikulić I, Marković Boras M, Jelić-Knezović N et al.: Kappa free light chains in cerebrospinal fluid of patients with identified oligoclonal immunoglobulin G. *Psychiatr Danub* 2017; 29Suppl 2:124-8
 55. Ziegler C, Wolf C, Schiele MA, Ferić Bojić E, Kućukalić S, Šabić Džananović E et al.: Monoamine Oxidase A Gene Methylation and Its Role in Posttraumatic Stress Disorder: First Evidence from the South Eastern Europe (SEE)-PTSD Study. *Int J Neuropsychopharmacol* 2018; 21:423-32

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