



Institut National de Santé Publique, d'Épidémiologie Clinique et de Toxicologie

POLICY BRIEF

CLINICAL EPIDEMIOLOGY AXIS

JULY 2019

Title: Clinical Epidemiology: Diseases Diagnosis and Prognosis**Authors:** Akiki Z, Hallit S, Cherfan M**SUMMARY**

Clinical epidemiology is the science of making predictions about individual patients by using strong scientific methods. It seeks to answer clinical questions and guide clinical decision-making with the best available evidence.

Within INSPECT-LB clinical epidemiology axis, a special emphasis is put on diagnosis and prognosis of chronic diseases such as validation of biomarkers, scales for screening /diagnosing diseases, disease prognostic factors. This axis also evaluates the clinical practice related to these aspects and patient reported outcomes, such as quality of life.

POLICY IMPLICATIONS/MAIN RECOMMENDATIONS TO THE MINISTRY OF PUBLIC HEALTH

- Encourage health care professionals to work on the transition from research to public health practices which has the best chance of reducing the burden of diseases in the coming years and it involves: **(1)** Using validated questionnaires to diagnose chronic diseases (e.g., DS-COPD: diagnosis score for COPD patients), or to measure patients' health status (e.g., SGRQ: St Georges' Respiratory Questionnaire for asthma and COPD patients), and **(2)** Using validated scales to assess the quality of life of patients with chronic diseases (e.g., CCQ score, Clinical COPD Questionnaire, SGRQ for asthma and COPD patients).
- Emphasize the importance of using specific biomarkers in the diagnosis and prognosis of chronic diseases.
- Give increased priority to the role of research in the field of clinical epidemiology and explore the opportunities of providing funds to conduct more research on clinical biomarkers. In fact, the measurement of biomarkers has become a hot topic and is needed to assess the prevalence, severity, progression and response to treatment of chronic diseases.

SUMMARY OF THE RESEARCH FINDINGS**Introduction**

Research in the field of clinical epidemiology will help obtaining the kind of information clinicians need to make good decisions in patient care. The purpose of this axis is to develop and apply methods of clinical observation that will lead to valid conclusions.

Background and Innovational Outcomes

The clinical epidemiology axis focuses on chronic or non-communicable diseases (NCDs). These diseases kill 41 million people each year, which is equivalent to 71% of all deaths globally (WHO, fact sheets, June 1st, 2018). Some of these diseases are underdiagnosed and sometimes diagnosed too late. The early diagnosis is quite a challenging task for the clinician, and efforts have been and should be made to identify these patients, optimize diagnosis, and guide treatment. NCD management interventions are essential for achieving the global target of a 25% relative reduction in the risk of premature mortality from NCDs by 2025, and the UN Sustainable Development Goals target of a one-third reduction in premature deaths from NCDs by 2030. One issue to control NCDs is to conduct more research to minimize the disease burden in our society.

Projects were conducted to validate multiple scales in Arabic language, which can be used to help clinicians diagnose and screen for multiple diseases. The table hereafter summarizes the name of the scale, the field of use and the category of patients that this scale can be applied to:

Scale name	Field of study	Applicable to
St. Georges Respiratory Questionnaire	Respiratory	Patients with asthma and COPD
Hamilton Anxiety Rating Scale and State Trait Anxiety Inventory A and B	Psychiatry/ Psychology	General population
Mini pediatric asthma quality of life questionnaire	Respiratory	Asthmatic children
Selected sleeping disorders scales (Athens insomnia scale, Epworth Sleepiness Scale, Insomnia severity index, Medical Outcomes Sleep Scale, and Regensburg Insomnia Scale)	Insomnia	General population
Geriatric Depression Scale (30 Items)	Psychiatry/ Psychology	Elderly

Conclusion

A total of 23 papers were published and currently two papers are in press. Other projects including biomarkers' measurements are pending due to financial issues. In fact, biological markers research in chronic diseases such as asthma has recently focused on the multidimensional approach, thus the combination of various markers instead of the assessment of the value of biological markers studied separately. Such projects require financial support to be finalized.

REFERENCES & PUBLICATIONS

Published Articles

1. Joelle Wehbe, Chadia Haddad, Sahar Obeid, Souheil Hallit, Georges Haddad. Prevalence of obsessive compulsive disorder in patients with schizophrenia and outcome on positive and negative symptoms, cognition and quality of life. *J Nerv Ment Dis.* 2019 Apr;207(4):239-245. doi: 10.1097/NMD.0000000000000956.
2. Zeina El Hachem, Marouan Zoghbi, Souheil Hallit. Psychosocial consequences of false positive results in screening mammography. *Journal of Family Medicine and Primary Care. J Family Med Prim Care.* 2019 Feb; 8(2): 419-425. doi: 10.4103/jfmprc.jfmprc_4_17
3. Fadi Nasr, Ahmad Al Ghoche, Saada Diab, Souheil Hallit, Moussa Riachi. Altered PD-L1 expression in non-small lung cancer patient after induction chemotherapy: A case-report. *J Med Cases.* 2019; 10(2):62-65. 32.
4. Grabar S, Hleyhel M, Belot A, Bouvier AM, Tattevin P, Pacanowski J, Genet P, Pradier C, Salmon D, Simon A, Pourcher V, Spano JP, Poizot-Martin I, Costagliola D. Invasive cervical cancer in HIV-infected women: risk and survival relative to those of the general population in France. Results from the French Hospital Database on HIV (FHDH)-Agence Nationale de Recherches sur le SIDA et les Hépatites Virales (ANRS) CO4 cohort study. *HIV Med.* 2019 Jan 28. doi: 10.1111/hiv.12703. 33.
5. Abdo R, Abboud H, Salameh P, El Hajj T, Hosseini H. Mortality and Predictors of Death Poststroke: Data from a Multicenter Prospective Cohort of Lebanese Stroke Patients. *J Stroke Cerebrovasc Dis.* 2019 Jan 9. pii: S1052-3057(18)30685-2. doi: 10.1016/j.jstrokecerebrovasdis.2018.11.033 34.
6. Ghina Al-Seddik, Dory Hachem, Chadia Haddad, Souheil Hallit, Pascale Salameh, Rita Nabout, Marouan Zoghbi. Cardiovascular events in hospitalized patients with schizophrenia: A survival analysis. *International Journal of Psychiatry in Clinical Practice.* 2019 Feb. 35.
7. Souheil Hallit, Chadia Haddad, Rabih Hallit, Marwan Akel, Sahar Obeid, Georges Haddad, Michel Soufia, Wael Khansa, Rony Khoury, Nelly Kheir, Christiane Abi Elias Hallit, Pascale Salameh. Validation of the Hamilton Anxiety Rating Scale and State Trait Anxiety Inventory A and B in Arabic among the Lebanese population. *Clin Epi Glob Health.* Feb 2019. 36.
8. Akel Marwan, Dabbous Mariam, Sakr Fouad, Safwan Jihan, Cherfan Michelle, Rahal Mohamad, Salameh Pascale, Shrayteh Zeina, Saleh Nadine. Evaluation of the practice of constipation management in the Lebanese community pharmacies. *Journal of Pharmacy and Pharmacology.* 2018 37.
9. Ghaddar F, Salameh P, Saleh N, Farhat F, Chahine R, Lahoud N, Hleyhel M, Zeidan RK. Non cardiac Lebanese hospitalized adult patients' awareness of their coronary artery disease risk factors. *Journal of epidemiology and global health.* 2018 38.

10. Lahoud N, Gebeily S, Salameh P, Saleh N, Abbas M, Hosseini H: Care and discharge outcome of acute stroke in Lebanon: A hospital-based study. *Journal of nervous and mental health*.2018 40.
11. Obeid, S., & Hallit, S. Correlation of the Stockholm syndrome and early maladaptive schemas among Lebanese women victims of beating into domestic/marital violence. *Couple and Family Psychology: Research and Practice*, 2018: 41.
12. Lahoud N, Salameh P, Hosseini H, Saleh N, Rizk E, Hallit S, Abbas MH, Gebeily S. Care and Discharge Outcome of Acute Stroke in Lebanon: A Hospital-Based Study. *The Journal of nervous and mental disease*. 2018 Aug 1;206(8):637-43.
13. Hallit S, Raheison C, Waked M, Hallit R, Layoun N, Salameh P. Validation of the mini pediatric asthma quality of life questionnaire and identification of risk factors affecting quality of life among Lebanese children. *Journal of Asthma*. 2018 Mar 7:1-1. 43. doi: 10.1080/02770903.2018.144141.
14. Akiki Z, Hallit S, Layoun N, Cherfane M, Sacre H, Waked M, Salameh P. Validation of the St George's respiratory questionnaire and risks factors affecting the quality of life of Lebanese COPD and asthma patients. *Journal of Asthma*. 2018 Oct 18:1-0. 44.
15. Matta R, Hallit S, Hallit R, Rogues AM, Salameh P. Correlates of drug resistance infection between hospital acquired and community acquired infections: A multicenter study in Lebanon. *Age*.;67(84):326. 45.
16. Hallit S, Haddad C, Hallit R, Al Karaki G, Malaeb D, Sacre H, Kheir N, Hajj A, Salameh P. Validation of selected sleeping disorders related scales in Arabic among the Lebanese Population. *Sleep and Biological Rhythms*. 2018:1-7. 46.
17. Dimassi A, Iskandar K, Matta R, Lahoud N, Hanna PA. Effect of Infection Prevention and Control Measures on the Length of Hospital Stay of Patients at Lebanese Hospitals. *J Infect Dis Epidemiol*. 2018;4:050. 47.
18. Jneid S, Jabbour H, Hajj A, Sarkis A, Licha H, Hallit S, Khabbaz LR. Quality of Life and Its Association with Treatment Satisfaction, Adherence to Medication, and Trust in Physician among Patients With Hypertension: A Cross-Sectional Designed Study. *Journal of cardiovascular pharmacology and therapeutics*. 2018 Jan 1:1074248418784292. 48.
19. Dib JE, Adams CE, Kazour F, Tahan F, Haddad G, Haddad C, Hallit S. Managing acutely aggressive or agitated people in a psychiatric setting: a survey in Lebanon. *Med J Islam Repub Iran*. 2018 Jul 15;32:60. doi: 10.14196/mjiri.32.60. eCollection 2018 49.
20. Hallit S, Obeid S, El Hage W, Kazour F. Validation of the Arabic version of the MADRS scale among Lebanese patients with depression. *Encephale*. 2018 Aug 17. pii: S0013-7006(18)30085-X. doi: 10.1016/j.encep.2018.05.004. 50.
21. Hallit S, Raheison C, Malaeb D, Hallit R, Waked M, Kheir N, Salameh P. Development of an asthma risk factors scale (ARFS) for risk assessment asthma screening in children. *Pediatr Neonatol*. 2018 Jun 7. pii: S1875-9572(17)30744-1. doi: 10.1016/j.pedneo.2018.05.009. 51.
22. Hallit S, Raheison C, Malaeb D, Hallit R, Kheir N, Salameh P. The AAA Risk Factors Scale: A New Model to Screen for the Risk of Asthma, Allergic Rhinitis and Atopic Dermatitis in Children. *Med Princ Pract*. 2018;27(5):472-480. doi: 10.1159/000490704.
23. Hallit S, Hallit R, Daher MC, Hachem D, Kheir N, Salameh P. An Arabic Version of the Geriatric Depression Scale (30 Items): Psychometric Properties and Some Findings in a Lebanese Elderly Sample. *Psychopathology*. 2018;51(3):177-185. doi: 10.1159/000486830. Epub 2018 Mar 13.

Accepted Articles

1. Souheil Hallit, Chadia Haddad, Sahar Obeid, Francois Kazour, Rita Nabout, Mouhamad J. Darwich, Fouad E. Tahan. Identification of factors affecting the quality of life among patients with addiction in Lebanon. *J Nerv Ment Dis* 2019. Accepted, under press.
2. Barbari A, Milane A, Salameh P, Abi Younis J, El Houjairy A, Safi K, Sabaa Ayoun I, Jaafar M, Bou Khalil L, Bachir A, Bassil N, Karnib H, Morad N, Rizk S, Masri M. Thrombophilic Genetic Anomalies and Their Association with Dialysis Initiation Age in a Cohort of Lebanese Hemodialysis Patients. *Exp Clin Transplant*. 2018.