The Herczeg Institute on Aging

Bulletin No.19 – May 2020

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Dear readers,

We are pleased to present Bulletin No. 19 of Herczeg Institute on Aging at Tel Aviv University. The bulletin presents you with diverse contents. The bulletin starts with an editorial article about The importance of sleep at old age, by Mr. Omer Sharon – one of the awardees of Herczeg’s awards for excelling doctoral students. Next, we have added summaries of two events that took place at the Institute: First, The LGBT (Lesbian, Gay, Bisexual and Transgender) Older Adults Conference, and second, the meeting with Dr. Francine Mayran, a psychiatrist and painter who devotes most of her artwork to advance the remembrance of the Holocaust as well as other genocides. This year’s poetry section features the poem The Panther by the late German poet Rainer Maria Rilke.

The last year marked the expansion of the staff in the Herczeg Institute. The Institute is currently associated, in different forms of affiliation and activity, with about 50 researchers, including excellent and distinguished faculty members who are interested in the study of aging and its ramifications. In the last year we also renewed the lecture series for gerontologists in the community. This year the chosen theme was: Between the inner and the external sphere: Creating meaning in the ever-changing reality of old age.

Unfortunately, these accomplishments were accompanied with a sad feeling, as we also witnessed the passing of Ms. Nitza Eyal. Nitza was a founding member and a prominent researcher in Herczeg Institute. Nitza was also a gifted writer and author, and we will greatly miss her wisdom and insights. This bulletin is dedicated to her memory.

We publish this bulletin in the face of the distressing crisis over the Coronavirus pandemic, which has seriously affected older persons. During this hard time, we wish you all good health, and would like to offer our modest condolences for those grieving the loss of their partner, family member or friend.

Currently, as the situation seems to be improving, we hope to return into full activity. Then, one of our main goals will be to advance research and community activities concerning the virus and its ramifications. Please follow our updates through email to get further information about our activities.

With best wishes,
The staff of the Herczeg Institute on Aging at Tel Aviv University
A good night's sleep is extremely important. When we spend a sleepless night, or suffer from a poor sleep, the effects of it will be prominent on the next day. Sleep deprivation affects many body functions, starting with those related to appetite control and the immune systems, but particularly to higher brain functions, such as decision making.

When we are very tired, we usually sink into a slow wave sleep (SWS), named after the slow waves observed in the electrical activity recorded using EEG. The peaks of these slow waves are observed on the scalp, when the nerve cells of the brain are in a period of neural quietness, characterized by reduced neural activity. Slow wave sleep is more dominant during the first part of the night, as the more tired we are, the larger the waves. Interestingly, these waves tend to weaken through the night, thus expressing, perhaps, a satisfied need.

Another kind of sleep is the dreaming sleep, also called paradoxical sleep, or Rapid Eye Movement sleep (REM). During this phase, the electric waves are similar to those of waking time, but the muscle tension remains very low, even lower than in slow wave sleep, so that the sleeping person is actually paralyzed (therefore called paradoxical sleep). At the same time, eye movements are rapid (hence the name REM), and when one wakes up, he often reports dreams. This kind of sleep appears more in the second part of the night and towards morning.

Paradoxical sleep and slow wave sleep appear intermittently and cyclically. During the night, both of which are influenced by circadian rhythms (meaning they tend to appear at typical hours of the day, regardless of our bedtime). For example, people who go to bed early and get up early, will spend less time in rapid eye movement sleep.

The sleep patterns, or sleep architecture in the professional jargon, are inclined to changes during the process of aging. From the fifth decade of life, people tend to: (a) go to bed earlier and wake up earlier than before; (b) spend more time trying to fall asleep. (c) sleep less time overall; (d) display more fragmented sleep (more awakenings, and more transitions to a shallow sleep); (e) experience more fragile sleep (more likely to be woken by an external sensory stimulus); (f) spend less time in slow wave sleep (SWS); (g) have slow waves of lower amplitude, and (h) have fewer and shorter sleep cycles overall. Apart from those general changes in the architecture of sleep, there are also changes in the electric oscillations (the sleep waves themselves, as measured by EEG). The most
significant change is the slowing wave activity, when a decrease in the waves’ intensity is observed as early as in middle age. These change increases with the aging process.

However, there are major interpersonal differences in older persons' sleeping patterns. Some would have minimal sleep loss, while others would experience dramatic changes. In addition, the frequency of mid-day nap increases greatly with age. About a quarter of those aged 75-84 report mid-day nap, with about half of them reporting they do not plan it. This finding is consistent with the finding according to which a quarter of the elderly report fatigue during the day. This fatigue may be so severe that it is enough to prevent one from carrying out his or her daily routines. The hypothesis is that this fatigue is due to the fragile, fragmented and missing sleep during the night. Even so, daytime fatigue and mid-day drowsiness are not universal features of old age. Many people actually report the opposite with the transition from middle age to old age. Sleep changes are also correlated with other medical or concomitant conditions (e.g., hypertension, diabetes, medication taking, breathing disorders [apnea], chronic pain, depression, and excessive urination at the night).

Beyond normal aging, sleep deprivation is especially common in neurodegenerative diseases that involve dementia. Today, we know that Alzheimer’s Disease is characterized by the accumulation of beta amyloid proteins in the brain, and by deterioration of protein skeletons (mainly TAU) of nerve cell axons (axons are the small fibers which interconnect to produce tangles). This disintegration leads to the weakening of the nerve cells connectivity pattern, and eventually, as the disease progresses, to cell death. Subjective and objective measures of sleep deprivation are correlated with the accumulation of amyloid in the cortex, as well as with its concentration in the extracellular fluid.

Recently, human studies have shown that amyloid is associated with the loss of the slowest oscillations of slow wave sleep (<1Hz). Together with other studies which were not mentioned here (see further reading), sleep changes seem to precede cognitive impairments by several years. Thus, in the future, sleep patterns analysis could perhaps support early diagnosis of neurodegenerative diseases. In addition, there seems to be a two-way relationship between sleep quality and amyloid accumulation. Pioneering studies in mice have shown that amyloid levels tend to increase with non-sleep time, while increased slow wave sleep predicts the removal of the amyloid. Moreover, cognitively healthy old people with fragmented sleep patterns are more likely to experience cognitive decline, and are more susceptible to develop Alzheimer's disease. Hence, some argue that insufficient or low quality sleep is a risk factor contributing to the degenerative process, whereas a good quality sleep may serve as a therapeutic and strategic tool for preventing dementia.

**The following steps could help you falling asleep more easily:**

- First, no panic. There is nothing more harmful to a good sleep than worrying, so it is better not to worry about the sleep itself.
• A light snack before bed may help. For example, many people find that hot milk increases sleepiness, as it contains natural soothing amino acids.
• Avoid stimulants (such as caffeine) found in coffee, tea, cola drinks and chocolate, at least 3-4 hours before bedtime.
• Do not nap during the day.
• Exercise moderately in the afternoon.
• A full and interesting day can benefit a good sleep (for example, when traveling and meeting people).
• Avoid strong bedtime stimuli, such as TV or violent computer games. It is better to relax before falling asleep.
• Use the bed only for sleep and sexual activity.
• Avoid tobacco products, especially before bed.
• Ask your doctor if any of your prescription medicine can affect your sleep.
• During the evening, it is recommended to keep a medium (instead of high) light levels in the house. It is also preferable to avoid overly intense light when using the bathroom late at night.
• In case you do not fall asleep after 20 minutes, get out of bed and engage in quiet activities, such as reading or listening to music. When you feel sleepy again, go back to bed and try to fall asleep again. If 20 minutes have passed and you are still unable to fall asleep, repeat the process.
• Drinking alcohol before bedtime is anesthetic, but it is best to avoid it, since it can also cause awakenings in the middle of the night.
• Low quality sleep is often caused by breathing difficulties, resulting from the anatomy of the mouth and neck anatomy, or from obesity. These complications might interrupt breathing when lying down. Small breathing breaks during sleep can significantly impair sleep quality. If you suspect that this is the case, you should consider getting diagnosed in a sleep lab. Several clinical solutions to this problem are available.

Resources and further reading:
Julie Carrier (PhD) lecture at the Physiological society (2016):
https://www.youtube.com/watch?v=_jSamfYTae8
U.S. National Library of Medicine:
https://medlineplus.gov/ency/article/004018.htm
National sleep foundation:
https://www.sleepfoundation.org/articles/aging-and-sleep
Persons aged 60-80 years are welcome to participate in Prof. Nir's studies, including an overnight stay at the sleeping lab in Ichilov Medical Center (Tel Aviv). For more details please contact omerxsharon@gmail.com

Three awards were granted this year to excelling doctoral students at Tel Aviv University, who have conducted research on aging-related topics. These awards commemorate the late Shmuel Friedberg. This year’s awardees were:

**Mr. Omer Sharon** (Physiology and Pharmacology Department, Sackler Faculty of Medicine) for his study entitled: *The effects of sleep on memory consolidation in healthy and demented elderly*. Advisor: Professor Yuval Nir.

**Ms. Moria Degan** (Center study of Movement, Cognition, and Mobility of the Neurology Department, Sourasky Medical Center, Sackler Faculty of Medicine) for her study entitled: *Mechanisms contributing to freezing of gait in patients with Parkinson disease*. Advisors: Professor Jeffrey M. Hausdorff and Professor Nir Giladi.

**Mr. Asaf Buch** (Epidemiology and Preventive Medicine Department, Sackler School of Medicine), for his study entitled: *The effect of circuit resistance training, empagliflozin or "Vegiterranean diet" on the physical and metabolic function in older subjects with type 2 diabetes*. Advisor: Professor Naftali Stern.
On February 21, 2019, the Herczeg Institute on Aging hosted a conference for researchers and professionals who interact with Lesbian, Gay, Bisexual and Transgender (LGBT) older adults. The conference was organized in collaboration with The Aguda –The Association for LGBTQ Equality in Israel; JDC-Eshel (Israel); Hoshen – the public education and awareness-raising arm of the LGBT community in Israel; the Social Services Department at Tel Aviv-Jaffa Municipality; and the Tel Aviv Municipal LGBT Community Center.

The conference started with a welcome speech and greetings from Professor Dov Shmotkin, Head of the Herczeg Institute; Dr. Einat Argavan, Head of Aging Section in the Social Services Department of Tel Aviv-Jaffa Municipality; Ms. Chen Ariely, Head of the Association for LGBTQ Equality in Israel; and Mr. Yossi Heymann, Executive Director of JDC-Eshel.

The program then continued with a lecture by Dr. Yitschak Schnoor (Myers-JDC-Brookdale Institute, Jerusalem) entitled *Needs of the aging LGBT community in Israel* (together with Dr. Ayelet Berg-Warman). The lecture mapped the difficulties experienced by older LGBT people, particularly in the fields of health and social services. The results showed that social difficulties of old age, such as loneliness and isolation, are augmented among aging LGBT. Moreover, older LGBT experience concerns when contacting social and health services, largely due to their fear of disclosing their sexual orientation or identity.

Next was Attorney Michal Eden, the Principal of LGBT Rights at the Israel Bar Association, who delivered a lecture entitled *Legal issues of LGBT seniors*. The lecture summarized the legal failures and difficulties that disrupt lives of older LGBT during crises, such as hospitalization or bereavement. This community is facing double discrimination on the grounds of age and sexual orientation. The lecture concluded with a review of some possible solutions to these difficulties.

The next lecture was by Dr. Kfir Ifrah (Ruppin Academic Center) and Dr. Geva Shenkman Lachberg (IDC Herzliya), entitled *Psychological well-being among gay and bisexual adults and older men in Israel: Challenges alongside strengths*. The lecture presented findings from recent studies depicting the duality of resilience versus vulnerability, as it manifested in different aspects of mental health among aging and older homosexuals. In this group, for example, negative psychological attitudes toward aging were related to higher vulnerability, while parenting was related to higher levels of meaning in life. These findings, together with other studies, could be applicative to clinicians and counselors working with older gay men.
Concluding this part of the conference was Dr. Ruth Litwin, a clinical social worker, with her lecture entitled *When sexism, homophobia and ageism meet: Lesbianism in late life*. The lecture dealt with acknowledging and valuing the narrative of aging lesbian women – who try to gain visibility and acknowledgment after a long period of hiding and social rejection. The lecture also addressed the difficulties of aging lesbians when contacting social and mental health services, and offered possible solutions for it.

The conference ended with a panel of aging LGBT people who shared their life stories. This panel was moderated by Neta Wolf, coordinator of LGBT older adults in Hoshen. The participants were: Efrat Tilma (71), one of the first trans women in Israel, a volunteer in the Israeli Police, and author of the book: "And this one will be called a woman" (In Hebrew); Mordechai Zilberman (85), who lately lost his spouse after 60 years of partnership, and is now active in senior LGBT issues; and Rubin Rosenblum (64), a clinical social worker, who works in public organizations and in a private clinic, and is an activist in the gay community.

The panel members spoke about their coping with discriminative and exclusionary attitudes towards their gender and sexual orientation, but also about moments of fulfilment and happiness.

The Herczeg Institute wishes to thank all the lecturers, participants and organizations who took part in this important and successful event.
On May 2, 2019, The Herczeg Institute on Aging at Tel Aviv University hosted Dr. Francine Mayran, a psychiatrist and painter from Strasbourg, France. Dr. Mayran dedicates most of her artwork to advance the remembrance of the Holocaust as well as other genocides. During her visit, Dr. Mayran met with scholars from Tel Aviv University and delivered a lecture entitled: "Holocaust memory through artistic means: Tools and insights."

At the lecture, Dr. Mayran presented examples of her paintings, which depict Holocaust scenes as well as survivors' portraits of the Holocaust, the Romany people genocide, the Armenian genocide, the Tutsi genocide in Rwanda and the Yezidi genocide in Iraq. In her work, she tries to transfer awareness and remembrance of them. She presented her work in many exhibitions in Europe, met with numerous survivors, and conducted educational work with children and youths on these topics. She regards her artwork (paintings and ceramics) as giving a voice for those who cannot speak and preserving a memory of largely untalkable experiences.

We wish to thank Dr. Mayran for her visit and very meaningful lecture. Notably, the Herczeg Institute collaborates with Cymbalista Center and Kantor Center at Tel Aviv University in organizing an exhibition of Dr. Mayran’s paintings as well as a related academic event. This activity marks the long-standing engagement of the Herczeg Institute and its researchers over the years with the study of Holocaust survivors and their aging trajectories in the shadow of their trauma.
His weary glance, from passing by the bars,
Has grown into a dazed and vacant stare;
It seems to him there are a thousand bars
And out beyond those bars the empty air.

The pad of his strong feet, that ceaseless sound
Of supple tread behind the iron bands,
Is like a dance of strength circling around,
While in the circle, stunned, a great will stands.

But there are times the pupils of his eyes
Dilate, the strong limbs stand alert, apart,
Tense with the flood of visions that arise
Only to sink and die within his heart.

Originally published in the book *Poems by Rainer Maria Rilke*. (New York: Tobias A. Wright Publisher, 1918). See an online version of the book at Project Gutenberg:

https://www.gutenberg.org/files/38594/38594-h/38594-h.htm#THE_PANTHER

*Rainer Maria Rilke* (1875-1926) was a notable Bohemian-Austrian poet and novelist. He wrote the poem *The Panther* (1902) after witnessing a caged panther at the Ménagerie du Jardin des Plantes, a zoo at Paris. The author describes a panther overpowered by its imprisonment, in such a way that its inner world is eliminating, leaving it unable to distinguish between the caged bars and its own self. This work could have several interpretations. Perhaps, this terrible feeling of vanishing inner self is similar to feelings experienced by some older people (e.g., Alzheimer's patients, severely disabled persons) who deteriorate behind their confining bars.
List of Recent Publications by The Herczeg Institute's Researchers

2018


Hazan, H. (2018). That’s how we were: individual, group, and collective in the Tel Aviv of “Late summer blues”. In H. Herzog and E. Ben-Rafael (Eds.), *Language and communication in Israel* (pp. 53-76). New York: Routledge. doi: 10.4324/9781351291040


**Books**


**2019**


**Books**


(*) Names of the faculty members of the Herczeg Institute on Aging are bolded.
The Herczeg Institute on Aging was established in 1992 at Tel Aviv University. The Institute fosters interdisciplinary research, as evidenced by the joint direction of the Faculty of Social Sciences and the Faculty of Medicine. The presence of this institute on campus signifies the increasing importance of research on aging-related topics at the university. The Herczeg Institute conducts and promotes an array of studies relating to aging and old age. These studies concern issues such as physical and mental health, health promotion, adaptation and resilience at old age, well-being and quality of life along the life span, cognitive and emotional aging processes, the elderly in society, ill-health at old age, dementia, problems in attending to the old, traumatic life events and the long-term impact of the Holocaust. Additional goals of the Herczeg Institute include the dissemination of gerontological knowledge in the academia and the community, stimulating researchers of aging and old-age in the various disciplines with a particular emphasis on promoting young researchers in the field and maintaining relationships with decision makers and policy makers in areas related to aging and old age.

The Herczeg Institute is directed by **Prof. Dov Shmotkin.**

**Faculty members**
- Prof. Jiska Cohen-Mansfield, Ph.D.
- Dr. Tali Cukierman-Yaffe, M.D
- Prof. Hava Golander, Ph.D.
- Dr. Eliyahu Mizrahi, M.D
- Prof. Haim Hazan, Ph.D.
- Prof. Shulamith Kreitler, Ph.D.
- Prof. Jacob (Jackie) Lomranz, Ph.D.
- Dr. Lilach Lurie, Ph.D.
- Prof. Dov Shmotkin, Ph.D.
- Dr. Isaac Sasson, Ph.D.

**Administrative Staff**
- Gil Barabi – Administrative Coordinator
- Tom Aival – Academic Coordinator
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If you are interested in receiving updated information about events and activities, please join our Mailing List. We also invite you to Like us on our Facebook page.

We would appreciate you sharing this newsletter with others who are interested in the field of aging.

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