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Transdiagnostic emotion-focused therapy and its role in stress management

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Abstract:

PAEN (negative emotion self-regulation program) was proposed by David Barlow (2004, 2018) and aims to enable each of us to become our own therapist, using validated methods inspired by cognitive-behavioral therapy. Such an approach does not replace psychotherapy or drug therapy, when these are needed, but can be a first aid for mild to medium intensity emotional problems that may arise in some situations perceived as stressful. It allows transcending the diagnostic categories proposed by the DSM, being synthetic and taking into account the patient and his/her problem. It comprises eight modules, which cover emotions, cognitions or behaviours, as well as the updating of personal values, which, depending on the intensity of the emotional problems and the level of impairment of the individual's functioning, can be applied flexibly. The programme has been validated in a controlled study, where it was compared with a diagnosis-specific treatment and equivalent results were found. These results represent a breakthrough and pave the way for a unified practice in psychotherapy. PAEN contains the four possibilities of the patient's reaction when overwhelmed by emotional stress, so that this programme can be applied in whole or in part, depending on the problem at hand, by self-application or with the supervision of a specialist, grouping together techniques that are easy to learn and apply.

Keywords: program, self-regulation, negative emotions

A current Cognitive-Behavioural Therapy has developed an approach that allows transcending the often artificial and fluctuating categories, always revisable subjects, through successive editions of the DSM (Diagnostic and Statistical Manual of Mental Disorders), according to scientific trends and social influences (Barlow, 2004). In contrast, the transdiagnostic approach is synthetic, taking more into account the patient and his problems.
David Barlow proposed the development of a unified protocol for transdiagnostic treatment focused on negative affect. It can thus be applied to a considerable number of diagnoses.
This protocol - the Negative Emotion (Self) Management Program - PAEN - aims to enable each individual to self-administer it, without having to replace the therapist, when necessary.
PAEN has also been validated for the management of negative social emotions, which are often at the origin of reactions in "stressful" situations.
The transactional theory of stress views stress as a response to the meanings attached to stressors and how they are managed (Lazarus & Folkman, 1984). These models of stress highlight the psychological characteristics of the person under stress. Of these, those that are associated with a high risk of developing maladaptive reactions to stress are negative emotions and their cognitive and behavioural consequences.
The model developed by Barlow can be used by people with maladaptive management of negative emotions, and its effectiveness is yet to be validated by future randomised controlled trials. PAEN has been used in a controlled trial (Barlow et al., 2017). It was compared with a diagnosis-specific treatment previously validated as effective for that diagnostic category, and with patients on a waiting list without treatment as a control group. Patients drew the experimental group to be part of. The study included 223 patients with either obsessive compulsive disorder, generalised anxiety disorder or panic disorder, with/without

agoraphobia. Follow-up of patients lasted 6 months. In turn, transdiagnostic therapy achieved results equivalent to specific treatment, but with less loss of patients during therapy. Both active treatments were better than the waiting list, which contains patients without treatment.
These results therefore represent progress and pave the way for a unified practice in psychotherapy (Cottraux, 2021).
PAEN can be run in eight modules, which should follow this sequence, but depending on the intensity of the emotional problem at hand, they can be run flexibly.

MODULE 1. EMOTIONAL DISTANCING
The art of "running" is the simplest solution and can be an anchor in managing emotions. It involves focusing on an attractive or interesting activity, such as practising an art, reading, playing a sport or going on a trip. But when this activity is completed, the unresolved issues that the person is running away from may be even more difficult than when the simple solution - running away - was first used.
Thus, a shift to more consistent solutions would be desirable. A first idea would be to broaden the perspective and take a bird's-eye view, especially on situations that have generated negative dispositions:
Belvedere technique - seeing the "stressful" situation from a height.
In order to have a Belvedere - a better perspective on the situation, it is indicated to broaden it, especially since it has been narrowed due to the intense emotions associated with focusing on a seemingly unsolvable problem situation. This is how one moves on to "observing the situation as if it were a landscape contemplated from the top of a mountain. This experience can then be formalised in a five-column sheet that will help us to get out of the central position of a difficult situation, by shifting our gaze either to the left, towards the past, or to the right, towards the future, in search of positive emotions that can be realised or imagined: pleasure, gratitude, good humour, pleasure, joy, enthusiasm, love and confidence. Once this expanded perspective has been generated, from above, the following seven modules can be initiated that can adapt reactions to stress.

MODULE 2. RELAXATION AND EMOTIONAL REASSURANCE
Stress responses are manifested at the physiological level by accelerated heart rate and respiratory rate, excessive sweating, gastric hypersecretion, etc. The tone of these reactions can be anxious, depressed or angry. They are supported by negative cognitions and often lead to some difficulties in work and family life.
Prolonged exposure to stress/chronic stress is a risk factor for heart, gastrointestinal or immune diseases and can thus contribute to depressive or anxiety states.
RELAXATION (Schultz, 1965) is still one of the most widely used methods that has proven useful in reducing dysfunction associated with prolonged exposure to stress. The following is a typical session.
In a calm environment, with as little noise as possible, the subject adopts a passive position: eyes closed, sitting in an armchair, as comfortable as possible. They focus on images that give a sense of calm - e.g. a lake, a night landscape under a full moon. Then concentrate on sensations of heaviness in different parts of the arms and legs. It then allows the sensation of internal warmth to arise in the abdomen and radiate throughout the body. It then concentrates on the breathing which it progressively slows down. Then on the heart rhythm and seeks to relax this rhythm. The sessions end with a feeling of freshness and coolness. Abdominal, slow and deep breathing techniques can also be integrated.
The relaxation session lasts around 10 minutes and, before opening the eyes and standing up, the subject will stretch and contract the arms to restore blood pressure, which can drop during the relaxation period.

Relaxation may or may not be guided, but is most effective when guided by a psychotherapist either during a session or through a recording given to the patient.

Vagal techniques

They are useful for stopping intense episodes of anxiety: panic attacks consisting of short episodes of anxiety, with an increase in manifestations in 3-4 minutes, and which are accompanied by feelings of unreality, detachment from oneself, fear of losing self-control, of not going mad or dying suddenly. It is a very dramatic experience to which is associated the fear of not having another panic attack episode, which can lead to self-isolation and even agoraphobia. To prevent this complication of the panic attack, a very quick method is needed, and the most practical way is to provoke the vagal reflex using the Valsalva manoeuvre. The principle is simple: there are receptors in the carotid artery that automatically send a message to the heart to slow down. To provoke this reflex it is sufficient to breathe through the nose and block the abdomen in forced inspiration for 5 seconds; it is therefore sufficient to count to 5 with the abdomen fully extended after inspiration. Repeat about 10 times or stop after relief of symptoms. A feeling of warmth will occur, the heart rate and breathing rate slow down, the panic attack ends.

MODULE 3 MINDFULNESS

The central method is the gift of attention. Every psychological problem has at its core a selective focus on a trouble spot. E.g. a person with social anxiety pays excessive attention to how he is liked by others. Fear of the judgement of others will fix their attention on their own behaviour and thus become even more clumsy in relationships, which will further lower their self-esteem. To break this vicious circle, practicing Mindfulness techniques helps the patient to become a detached observer of their own thoughts and thus perceive maladaptive reactions. Mindfulness proposes to voluntarily refocus attention on the here and now, and especially on sensations, without judging, stopping the reflexive and immediate actions of "autopilot". This keeps the person focused on the experience of the present moment and leaves no room for anxious or depressive ruminations. This promotes acceptance of the self, of one's own emotions, thoughts and the world. It is a state better suited to the decision-making process, either to act or to accommodate oneself in an uncontrollable situation.

Exposure to traumatic thoughts, emotions, memories

Thoughts and emotions are creations of our spirit, they are transient and deserve to be treated with kindness and compassion. They are like sour drops passing through a window and dripping away.

Meditation allows you to imagine reducing impulsivity by developing less destructive behaviours for yourself and others.

Body scan and breath meditation

It focuses on the body scan associated with breathing and lasts between 20 and 40 minutes. Here is an example of its stages:

1. Make yourself comfortable in an armchair, seated or reclining, in a warm and quiet place. Let your eyes close gently;
2. Notice your breath movement and the physical sensations you have in your body: especially touch or pressure with your chair or bed are body anchor points for your meditation;
3. If disturbing thoughts arise, let them pass, they are fleeting; observe them with goodwill as they glide past you like raindrops on a window;
4. Be aware of the physical sensations in your abdomen as you breathe in and out;
5. If your spirit wanders away from the breath, gently bring your attention back to the abdominal breathing cycle;
6. Awareness of the base of the left calf, the left foot, coming out of the left foot through

the toes; focus on each toe in turn and the sensations of contact between the toes, notice the sensation of napping, of warmth;

7. Concentrate now on the breath; the air enters the lungs, reaches the bottom of the lungs, the abdominal area, then the left calf and exits the leg through the toes; then on the exhalation feel or imagine the breath coming up the leg, going up the calf, into the abdomen, into the chest and out through the nose; then start this lower breathing with the right calf;
8. Continue to focus your attention on the breath, this time inside the chest, fingers, hand, arm, shoulders, neck, head and neck;
9. When you leave a body area, breathe in through that area and out through your exhalation; imagine the breath going through your head and out through a hole the size of a coin;
10. After you have scanned your whole body, take a few minutes to become aware of the sensation in your body as a whole; let your breath flow freely from the inside to the outside of your body.

MODULE 4 COGNITIVE RESTRUCTURING

Some dysfunctional emotions such as anxiety, depression, anger and hostility lead to personal ineffectiveness. They disrupt the ability to concentrate, to make decisions, and destroy relationships with others. Many believe that stressful situations necessarily generate maladaptive or undesirable feelings that cause aberrant behaviours, stigmatised by society. This is partly true, as the interpretation attached to events is responsible for the feeling of stress and the resulting effects.

What allows the emotional register of such a situation to change is a different interpretation of it, and this is possible through cognitive restructuring techniques. This process of changing interpretation proceeds as follows (Cottraux, 2021):

1. Identify undesirable emotional consequences such as anger, hostility, depression;
2. Identifying the event that preceded the emotional disturbance;
3. Imagining the event and, as a result, experiencing emotional disturbances;
4. After feeling the emotion, changing it to a different register, resulting from a more realistic belief.

When the nature of emotional reactions is changed, the feeling of helplessness in the face of "stressful" events changes.

Cottraux recommends the use of a worksheet that allows to identify the relationships between events, negative thoughts, the resulting actions, then, in the next phase, to reinterpret the automatic thoughts that are at their origin. The same author believes that a list of maladaptive early cognitive schemas can also be used. Once the set of automatic thoughts is known, it is possible to see what their main themes are and how they can be organised around one or more schemes, which it is desirable to name so that the patient is aware of their power over our choices and behaviour.

MODULE 5. COMMUNICATION AND ASSERTIVENESS SKILLS

Assertiveness/self-affirmation (Alberti & Emons, 1974) is a behaviour that enables a person to act in his or her best interests, to defend his or her point of view without reliving undue anxiety, to express feelings honestly and easily, and to exercise without denying the rights of others.

Passive people deny their rights and often take a submissive stance, accompanied by anxiety, guilt and sadness.

Aggressive people violate the rights of others to get what they want, showing anger, contempt and humiliation.

Passive-aggressive people manipulate or guilt-trip others to get what they want, hiding resentment or resentment.

An assertive person will have clear, problem-focused communication and will force themselves

to respect others as they respect themselves.
Assertiveness is expressed differently depending on the social context: in particular through tone of voice, eye contact, gestures, fluency of speech and the content of the verbal message; all of this according to a code of conduct specific to the environment to which they belong.
Learning to communicate better makes it easier to express both positive and negative feelings appropriately. Not expressing emotions leads to interpersonal tension and physical and mental discomfort. Conversely, when negative emotions boil over, they will be over-expressed or displaced onto another person. In addition, inaccurate messages foster misinterpretation and cause tension in relationships. Often, in a "stressful" situation, it is difficult for the person to focus on the problem and provide the dialogue partner with the information needed to improve the situation. Person-centred or relationship-centred communication can generate an endless game of blaming, blaming and threatening.
It is preferable to stick to issue-based communication when we want to communicate a feeling, a negative emotion, followed by formulating the message in positive terms.
In addition to choosing precise and positive messages, it is desirable to ensure that, in the communication process, the message is clearly understood. Thus, good communication is associated with good negotiation that is carried out without coercion, leaving aside the negative aspects of the relationship to focus on common goals, where both parties are winners, and where goodwill, mutual support and mutual prosperity are dominant, and not through physical coercion or emotional blackmail.
The learning of these communication skills is thus done in the form of rehearsal in the imaginary, through the so-called internal model technique (Cottraux, 2021): the person projects his/her own image that will serve as a model of action in reality. In a state of light relaxation obtained after about 20 minutes of guidance, the person who wishes to remain at the level of positive communication on the problem will represent a situation that could slide into a conflict fuelled by anger, anxiety or resentment. The person will project themselves as staying at this level of communication - on the problem - and nothing more, remaining polite and positive. It is desirable to continue with imagining and positive effects of change.

MODULE 6. PROBLEM SOLVING

Although people spend most of their time solving problems, they are not always effective, and poor problem solving can result in emotional distress.
Inefficiencies in problem solving can result from:

- Problems are viewed/analyzed superficially;
- The solutions chosen are unrealistic;
- The chosen solutions are applied inappropriately or not at all.

The main disruptive factor in problem solving is emotions, and often the analysis stage is skipped and conclusions are drawn too quickly.
The problem-solving method was developed by Nobel Laureate Herbert Simon (1978) to model the relationship between intelligence and decision-making, and then translated into cognitive-behavioural therapy (D'Zurilla & Nezu, 2004). It is based on a circular model comprising seven stages, after which the first stage is repeated as follows:

1. Defining the problem - explaining, elaborating, causes and consequences, formulating the problem in precise and concrete terms; it is also particularly useful to integrate the problem in its global context;
2. Elaboration of solutions - inventorying all possible solutions, without evaluating or censoring them (brainstorming); this stage requires as much creativity as possible;
3. Evaluation of solutions - by analysing advantages and disadvantages, short, medium and long term consequences for self, others, concrete implications;
4. Making a decision - taking into account the balance of comparing solutions against each other, opting for a solution/set of solutions; looking for a compromise rather than the perfect

solution; and the risk is procrastination;

5. Implementing the decision - specifying the tasks involved in implementing the decision and setting a timetable; it is important that expectations are realistic in terms of the time required for implementation and the effects;

6. Evaluation of the results of the action - according to the objectives and the problem defined in advance;

7. Resume problem solving - if the results are unsatisfactory; restart the process with the first step, redefining and reformulating the unsolved problem.

In this model, unsatisfactory results are not seen or perceived as a failure, but rather as an indicator that the problem needs to be reformulated, or a better solution sought and a strategy found to achieve it, and thus restart the problem-solving cycle.

MODULE 7. UPDATING PERSONAL VALUES

Positive or negative emotions are related to acquired religion or philosophical ideology. They participate in the formation of the cognitive schemas by which we interpret the world. Some values may conflict with each other.

Choosing our own values determines the meaning of our lives. Existential choices become action plans. Values are paths that lead us where we want to go. They are written on our roadmap and it is not possible to get to more than one place at the same time. Exacerbated emotions can come from conflicts of values between self and others, or within the self. It is therefore useful to clarify and choose values, as a wrong choice in relation to values can lead to emotional distress and distress. They can be defined from simple questions that correspond to existential choices.

MODULE 8. EMOTIONAL EXPOSURE

An effective response is characterised by a reduction in physiological activation and the production of positive thoughts that promote coping and adaptation in situations we usually avoid. Cognitive adaptation is achieved by producing positive inner monologues. But behavioural adaptation also needs to be developed. A successful action, even once, allows entry into the spiral of success.

For fear and anxiety - which usually involve flight and avoidance - two techniques promote the ability to adapt to situations with high emotional potential: imaginal and in vivo exposure to potentially anxiety-provoking situations. This exposure may or may not be guided by a therapist, and to achieve a good result it is essential to follow a few principles: exposure should be gradual, repeated and prolonged. Initially, situations are prioritised by level of difficulty, then exposure in the imaginary starts with the least anxiety-provoking situation and gradually moves to the top of the hierarchy until the anxiety experienced is 4/8. After completing the imaginal exposures, one can move on to in vivo exposure in a similar way.

After which the situation is repeated until habituation is reinforced.

Conclusions:

When a person is faced with a "stressful" situation, they have four general options for reacting:

- Seeking social support;
- Emotional calm;
- Effective problem solving;
- Action for emotional change.

PAEN contains all these solutions to stress. This programme can be applied in full or in part, depending on the specific situation, either self or hetero-applied.

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Case presentation- Case Management of Mild Cognitive Impairment and Anxiety-Depressive Disorder diagnosed after SARS-Cov2 Infection

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Abstract:
Through this article, we want to highlight the importance of diagnosing earlier the MCI and anxiety disorder in order to be able to institute the necessary therapeutic measures and also to preserve the quality of life to a young patient.
Also the second very important aspect that we want to emphasize is that of the cognitive and behavioral disorders developed in the post Covid era and how to manage this pathology that the current medical world is facing in the new paradigms. Through these aspects we show once more the importance of extrinsic factors (such as professional stress, COVID infection, lifestyle and behaviors) in maintaining both physical and mental health and increasing the quality of life at the same time as increasing life expectancy.
Keywords: SARS-COV2, mild cognitive impairment, anxiety, depression disorder

Information from literature: Since the beginning of the COVID 19 pandemic, the problem of mental health and its imbalance due to the infection with the SARS-COV2 virus, as well as all its

related aspects, have begun to be observed and studied. At the beginning the studies focused on the psychosocial response to the pandemic and on the emotional and psychological impact of strategies related to the pandemic such as quarantine, harder access to health services, isolation [1,2]

Later, the issue of cognitive deterioration and apathy, anxiety state, depression and rhythm disorders were noticed and began to be studied in patients who were infected. So, it was concluded that it is necessary for all medical professionals to be aware of the existence of these disorders in the post-covid syndrome in order to approach the recovery process in a multidisciplinary way [3]

Also, this newly created niche in medicine opens the way to research, development of new clinical studies in the field of cognitive health to be able to incorporate all these new scientific discoveries [4]

Case presentation: 47-year-old-man known with multiple risk factors regarding neurocognitive pathology with early on set such as: hypertension with uncontrolled values in the last 2 years, mixed dyslipidemia with hypercholesterolemia and hypertriglyceridemia
Additional risk factors: minor head trauma by falling without hospitalization, spondylitis with HLA-B27 positive, Helicobacter pylori positive, hepatitis with HCV (treatment with interferon in 2013), 25-OH-Vitamin D3 and folate deficiency, smoking 10 cigarettes/day, alcohol weekly, Professional exposure at chemical fertilizers (including cyanide) in the field of agriculture.
3 months after infection with SARS-COV2 mild symptomatic form without hospitalization present itself in the Clinic with: sleep rhythm disorders, repetitive wakefulness, wakes up tired, headache of moderate intensity, dizziness with balance disorders, concentration problems and short-term memory impairment.
Biological: mixed dyslipidemia with hypercholesterolemia and hypertriglyceridemia (LDL=220 mg/dl) , 25-OH-Vitamin D3 and folate deficiency.
Paraclinically: Brain MRI with hippocampus volumetry: bilateral hippocampal atrophy, without vascular, ischemic or hemorrhagic brain lesions, symmetrical non-dilated ventricular system.

STANDARDIZED GERIATRIC EVALUATION:

1. MMSE (Mini Mental State Examination)- 28/30 pct lose 2 pct la attention and mental calculation
2. C.D.T (Testul ceasului/Clock drawing test)- 8/10
3. HACHINSKI score - 5
4. ADL (Activity of Daily Living) - 6/6
5. IADL (Instrumental Activity of Daily Living) - 8/8
6. Verbal fluency: Letter : 10 /min , 15/min
   Semantic group: 12/min /, 15/min
7. REY Figure copy 34/36, evocation 22/36
8. GDS 15 (Geriatric Depression Scale 15 items) 5/15
9. MNA (Mini Nutritional Assessement) 22/30
10. TINETTI static 13/13, dynamic 8/8

Corroborating all anamnestic data and paraclinical investigations, we formulated the following diagnoses: Mild Cognitive Impairment (MCI), mixed anxiety-depression disorder, predominant in the anxiety component post infection with SARS-COV2, hypertension stage III additional high-risk group, mixed dyslipidemia due to hypercholesterolemia and hypertriglyceridemia, chronic gastroduodenitis with Helicobacter pylori antigen present, 25-OH-Vitamin D3 and folate deficiency.
Treatment: Porcine brain protein hydrolysate - 2 fi of 10 ml administered in the morning in PEV

250ml Ringer's solution, for 5 days/month, 6 consecutive months, adaptogen supplements, Vitamin D3 and folic acid substitution treatment, antihypertensives oral drugs: sartan + calcium blocker (with TA / AV value control), antiplatelet agent, hypolipemic initiation of antibiotic therapy for Helicobacter pylori in combination with IPP. Lifestyle counseling - chronic stress management and associated risk factors (diet, sleep hygiene).
Visit 2 - dynamic revaluation at 6 months: Biological tests show the correction of vitamin D3 and folate deficiency, with the decrease of the values, Total cholesterol, LDL, triglycerides – the improvement of the clinical-biological symptomatology; Improvement of anxiety-depressive symptoms, sleep-wake rhythm disorders, behavioral disorders, and psycho-emotional status.
Improving cognitive performance highlighted by standardized geriatric reevaluation.

STANDARDIZED GERIATRIC EVALUATION Visit 1 Visit 2 (6 months)
1. MMSE (Mini Mental State Examination)
28/30 pct (lose 2 points of attention and mental calculation) 30/30 pct
2. C.D.T (Clock drawing test)
8/10 pct 10/10 pct
3. HACHINSKI score
5pct 5pct
4. ADL (Activity of Daily Living)
6/6 pct 6/6 pct
5. IADL (Instrumental Activity of Daily Living)
8/8 pct 8/8 pct
6. Verbal fluency Letter
10 letters/min / 15 letters/min 15 letters/min / 15 letters/min
Semantic group
12 letters/min / 15 letters/min 20 letters/min / 15 letters/min
7. REY
Figure Copy
34/36 pct 36/36 pct
Evocation
22/36 pct 28/36 pct
8. GDS 15 (Geriatric Depression Scale 15 items)
5/15 pct 5/15 pct
12. MNA (Mini Nutritional Assessment)
22/30 pct 22/30 pct
13. TINETTI STATIC
8/8 pct 8/8 pct
DYNAMIC 13/13 pct 13/13 pct.

STANDARDIZED GERIATRIC EVALUATION		Visit 1	Visit 2 (6 months)
1. MMSE (Mini Mental State Examination)		28/30 pct(lose 2 points of attention and mental calculation)	30/30 pct
2. C.D.T (Clock drawing test)		8/10 pct	10/10 pct
3. HACHINSKI score		5pct	5pct
4. ADL (Activity of Daily Living)		6/6 pct	6/6 pct
5. IADL (Instrumental Activity of Daily Living)		8/8 pct	8/8 pct
6. Verbal fluency	Letter	10 letters/min / 15letters/min	15 letters/min / 15letters/min
	Semantic group	12 letters/min / 15letters/min	20 letters/min / 15letters/min
7. REY Figure	Copy	34/36 pct	36/36 pct
	Evocation	22/36 pct	28/36 pct
8. GDS 15 (Geriatric Depression Scale 15 items)		5/15 pct	5/15 pct
12. MNA (Mini Nutritional Assessement)		22/30 pct	22/30 pct
13. TINETTI	STATIC	8/8 pct	8/8 pct
	DYNAMIC	13/13 pct	13/13 pct.

Table 1

Conclusions:

The net improvement of the neurocognitive symptoms, the improvement of the cognitive performances, highlighted by the increase of the scores of the tests within the standardized geriatric evaluation performed in dynamics, after the administration of neurotrophic treatment for brain 6 months according to the indicated therapeutic scheme. Early establishment of treatment for associated risk factors (vascular and metabolic) has also been a major contributor to the improvement of neurocognitive symptoms. Counseling on stress management (predominantly professional) has had a positive impact on case management.

The early approach to mild cognitive impairment, by initiating specialized neurotrophic treatment in combination with the correction of existing vascular and metabolic risk factors, has significantly contributed to the improvement of clinical-biological symptoms, background, improving cognitive performance, behavioral disorders, and psycho-emotional status in this case.

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Innovative methods and techniques for the prevention of falls in the elderly people

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Abstract
Falling and injury is currently one of the most serious situations that elderly people face. The gravity of this situation is given by the fact that the vast majority of elderly people also have other medical problems, sometimes they have multiple problems that can be the cause of falls or that worsen after a fall and an injury, minor or serious. The problem of falls is also important for the medical system, because it involves a large number of specialists for providing medical assistance, performing operations and recovering from traumas suffered by the elderly.
In this paper, the situation of falls is analyzed and some innovative methods and techniques are proposed for the prevention of falls and fall protection.
Keywords: elderly, fall, prevention.

1. Introduction

Falls are one of the first causes that affect older people. The definition used by the World Health Organization (WHO), regarding falls, is that they are "sudden, unintentional changes in position, resulting in the body being located at a lower level than at the initial moment" (WHO, 2017). The World Health Organization estimates that a number of approx. 646,000 people a year worldwide die due to falls.
Currently, against the background of the increase in life expectancy of the population, scientific discoveries in the medical field and medical technology, the situation of accidents and deaths due to falls has become a "public health problem, and the drugs administered to the elderly are one of the factors of risk associated with falls" (Marineci, 2019). So these falls, of elderly people, are considered a "real public health problem".
Specialists focused on developing strategies to reduce the number of falls, and when falls occurred, they sought to eliminate the consequences of falls. This situation is very important for the periodic evaluation of the drugs that must be administered to people, the identification and rational use of those drugs that predispose to falls. In this sense, a number of specialists believe that drugs represent "a modifiable risk factor". From here, a series of close collaborations between doctors and pharmacists emerged, in order to find the right medical and treatment solutions that would really contribute to reducing falls.

2. Analysis of the situation of falls

Any analysis of falls must begin with the fact that they are the leading cause of injury and death in people over 65 years of age. From the medical statistics developed by WHO, it is estimated that in a year, approx. 25% of people over this age fall at least once. This results in a real medical problem, "a veritable geriatric syndrome" (Marineci, 2019), where falls occur as a result of limitations, which affect several areas, leading to the decompensation of patients' abilities.
In the scientific research, great importance must be given to the problems that arise due to falls, because all the situations that the elderly go through come from them, and the medical staff very often face new situations, aggravated by the general state of the patient, the diseases he has or the treatments he is given.
The main problems that arise are:
a). Affection of the lower extremities, which produce: instability, insecurity, stiffness in walking, etc.
b). Sensory: vision disturbances, hearing impairment.
c). Affective: depression, anxiety.

All of these can compromise a person's ability to maintain body position, predisposing to falls. Most falls result in bruises, scratches, minor trauma, scares, which do not require special medical care and do not require hospitalization. From the statistical data it follows that approx. 10% of falls that require a visit to the emergency room are for: 59.6% fractures, 20.9% superficial injuries, 8.7% head trauma. Diagnosed fractures after a fall are as follows: 27.5% hip fractures, 19.8% wrist fractures, 7.2% arm fractures. (Hartholt et al., 2011). In addition to the suffering caused to the elderly person who falls, falls are also a problem at the level of society because the costs associated with caring for people following falls are very high. Some of the factors that predispose to falls also belong to the patients. Among them, the most important are the following: history of falls, weakness, gait and balance impairments, administration of substances that act on the central nervous system.
A number of other factors favoring falls in the elderly are the following: visual impairment, polymedication, depression, orthostatic hypotension, functional limitations, age over 80 years, female sex, low body mass index, urinary incontinence, cognitive impairment, arthritis, diabetes and untreated pain. The more risk factors a person has, the greater the risk of falling. Other external factors are the following: inappropriate lighting, steps without hand-current support, obstacles in the direction of travel, slippery surfaces, etc.
However, many of these factors are modifiable and health professionals can intervene on them. The importance of studying falls is given by their immediate consequences, as in the case of fractures, trauma and immobilization, but also by the long-term consequences. Many older people suffer from osteopenia and osteoporosis, which make bones less resistant to the shock of falls and can break. Fractures limit mobility and often lead to bed rest. Trauma-related pain limits movement, and lack of movement leads to decreased muscle tone, which adds to the loss of muscle mass characteristic of the elderly. This leads to a difficult situation, as in a "vicious circle". The elderly person who falls becomes less and less able to carry out daily activities. The anxiety caused by the possibility of falling causes social isolation. All these limitations lead to a decrease in the quality of life of the elderly person.

3. Methods of preventing falls

Falls can be fatal or non-fatal, they can be avoided by several methods and these must be known and generalized at the level of the elderly. The main methods of preventing falls, generally accepted by Geriatrics specialists, are the following (SAG, 2010):

a). Practicing physical exercises. A number of specialists believe that exercise is "the best way to prevent falls among people who live alone". From the studies published by the American Geriatrics Society, in 2010, it was found that elderly people who exercise regularly are less likely to fall, to injure themselves, that is, by practicing physical exercises, the chances of fracture are reduced. These exercises can be:
- Refreshing and maintenance gymnastics for the elderly, (Youtube, 2021).
- Fitness, which includes a greater number of exercises, from gymnastics to light running.
- Swimming and simple walking through the water. Swimming is recommended for elderly people who know how to swim. Simple walking through the water, in a shallow or medium depth pool (therapy pool) or walking through the sea water, close to the shore, at a shallow depth, have special effects on the state of health.
- Qi-Kung (Energetic Gymnastics of Chinese origin), which contains positions, limb and body movements, breathing techniques, self-massages and relaxation techniques (Qi-Kung, 2018).
Among these, a great emphasis is placed on leg exercises. Elderly people who suffer from leg pain, who have had fractures, have difficulty moving the leg or have difficulty moving, need to do a series of specialized exercises for the ankle, legs and hips to reduce the number of falls.
The specialist doctor must question, find out and even observe what kind of exercises the patient practices, to determine if they are correct and appropriate for her age.

b). Home security. This is one of the most important for the elderly, who are more prone to falling. In their home, safety must be a priority, to reduce the risk of falling. First of all, the floor must be covered with anti-slip coverings (carpets, carpets), which allow easy movement in the house. Some of these materials can reduce the shock of falls, depending on the thickness or the material from which it is made. Then, all the places with corners or sharp edges (furniture) must be arranged as far as possible from the access corridors where people normally move (bedroom, living room, bathroom, kitchen). It is really necessary to give up those pieces of furniture, which can be dangerous in case of falls.

c). Appropriate footwear. It must be suitable for the exterior and interior of the home. Outdoor footwear, especially for winter conditions, for slippery or icy areas, must be non-slip. For housing, as well, it is recommended to wear special slippers with anti-slip soles.

d). Vitamin D treatment. Elderly people, who regularly undergo medical tests and find that they have lower vitamin D content in their blood, should focus their diet on those foods rich in vitamin D content.
e). Healthcare interventions. In some healthcare interventions, there is a risk of injury to the elderly, causing acute pain, intolerance to certain medical activities (treatments, massages) or infection.
- Risk of injury. This refers to increased activity and should include massage to eliminate leg fatigue.
- Acute pain. This may be related to fatigue, and in order to reduce dizziness and headaches, it is necessary to explain the causes of headache and dizziness, the various side effects, due to the large amounts of drugs used.
- Intolerance to activities. In order to determine this situation, the elderly must be questioned about the way and type of activities they usually carry out. From here, certain conclusions can be drawn regarding certain changes that people must make, in order to avoid those activities

that cause them discomfort or present certain health risks.
- Risks of infection. The presentation of the situations that present the risk of infection is necessary to maintain the immunity status of the elderly person. In this sense, it must be explained to people what hygiene is appropriate for their age; what is the healthy diet, even taking into account other ailments from which he suffers and explaining the need to consume products that contain adequate minerals and vitamins.

4. Modern information methods

Considering the situation of falls, it is considered that the most important thing is for elderly people to be informed and even trained, by the family doctor, the geriatric specialist doctor or the specialist doctor for the ailments from which the person suffers, in order to prevent falls. The main fall prevention methods that can be used for the elderly are the following:
- Information through direct communication with the patient.
- Information through printed materials.
- Information through means of communication via mobile phone and internet.

a). Information through direct communication with the patient. In the case of the family doctor, considering the fact that he interacts with the elderly, at least once a month, when they come to pick up their prescriptions, information about the prevention of falls is easy to achieve, based on systematized information, short in duration (2-3 minutes). Even if some people are reluctant to new information, to those that require them to change certain attitudes and behavior, still the family doctor has a direct influence on his patients, and the trust they have in him is very important for the transmission of information about preventing falls.

b). Information through printed materials. Both the family doctor and the specialist doctors, from different fields, can inform and transmit to the patients printed informative materials (posters, leaflets) about the prevention of falls, their effects on the state of health and about the difficulty of recovery. These materials can be printed and distributed as part of national information and documentation campaigns, among doctors and the population.

c). Information through means of communication via the Internet and mobile telephony. Considering the development of the Internet, mobile communications and applications that can facilitate communication, it can be appreciated that a family doctor, who can constitute a group of patients, elderly people, on the "Whatsapp" application, for the mobile phone, tablet or for the electronic computer, (Whatsapp, 2022).
Many exercises are found and explained in several languages (English, Romanian) on the Youtube pages. On this audio-video information channel, a series of specialists (doctors, trainers, instructors) present gymnastics, medical recovery, Qi-Kung exercises. Some films show simple, complex or over-specialized exercises, such as Qi-Kung, for certain conditions. The main problem is that of the language of communication, usually in English, then finding the exact video material, the presentation film of the respective exercises. Use of this channel is free.

5. Innovative techniques and technologies for preventing falls

In recent years, several techniques and technologies have been invented, which can be used to prevent falls or to mitigate them. Considering the fact that many of these new products are relatively expensive, and some of the elderly cannot afford to buy them, we also consider a series of accessible products and materials. Apart from the price of the products, another

problem is the fact that people, in general, dress in such a way that when they go on the street (for a walk, shopping or visiting), they try to dress as elegantly as possible, which does not mean that these clothes and shoes offer them protection against falls. This is where the discrepancy between elegance and protection appears and remains a difficult problem to solve and to convince people to look for safety and not protection. Among the easiest products to purchase are: hip protectors, elbow and knee protectors, anti-shock gloves, head protection helmets and others. The most expensive products are exoskeletons, which have not yet begun to be widely used.

a). The protections for the hip. The hip protector reduces the chances of hip fracture to a greater extent by providing good protection against falls. These have many shapes and types, which can provide protection for the hip (the simple ones) or for the hip and lumbar area, (TeckStar, 2022).

b). Protections for elbows, knees and wrists. Protections for elbows, knees and wrists can be used when the weather conditions are unfavorable and the elderly person has to move outside and at this moment there is a risk of falling. The use of these protections reduces the risk of fractures, but they can be considered as "displaced", to be worn by the elderly, but they have different models and affordable prices, (Funride, 2022).

d). Head protection helmet. Headphones for the elderly have different shapes and models, (Fruugo, 2022). Even if such a helmet is effective and protects the head during a fall, however, their use has not become widespread, because they are considered unsightly.

e). The exoskeleton. They began to be used in military structures, to reduce the effort of the military regarding the weight they have to carry on the battlefield. Other models, with civil application, are used for recovery after operations, for re-education of walking, in specialized medical recovery centers. But the price of these devices is very high, which practically makes it impossible for elderly people to purchase and use those (Latodis, 2022). The problem is to make exo-skeletons from composite materials, resistant, light and affordable.

The use of exo-skeletons for moving on the street, in shops or institutions, will raise a series of inherent problems for those who use them, but all of these can be easily overcome, and the effect of their use will be one that will significantly reduce falls.

Conclusions

The problem of falls concerns a growing number of people, from those with positions of responsibility in medical institutions, but also from the families of elderly people who want to offer them protection.

For specialists in this field, a series of measures are required as follows:

- Training of family doctors, to inform elderly patients, regarding the prevention of falls. For this, it is necessary to organize national, regional or county symposia, in collaboration with the associations of family doctors, to which all family doctors are invited and participate.
- Organization of a national information and documentation campaign, among geriatric specialist doctors, about modern methods of preventing falls. The campaigns can be launched with the support of the "Ana Aslan" Foundation from Bucharest and with the help of commercial companies that distribute sanitary materials and medicines, directly interested in promoting the products they sell.
- Organization of an information campaign for citizens through mass media. This campaign can be generalized, at the level of the national mass media, but also at the regional and county level. The main problem being that of the financial resources necessary to finance the messages transmitted through these channels.

The organization of social day centers, which meet the conditions described above, for information and communication, in addition, elderly people can interact and socialize with each other.

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Associations between risk of paralytic ileus and atypical antipsychotic use in mixed dementia

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Abstract:

Dementia affects 35 million people worldwide. Although Alzheimer's Disease (AD) is the most common form of dementia, 25% of patients have vascular dementia (VaD) and a further 20–40% have mixed dementia with VaD and AD. More than 90% of patients with dementia will experience at least one behavioural and psychological symptoms of dementia (BPSD), such as delusions, hallucinations, agitation and aggression during the course of their condition. Both atypical and conventional antipsychotics are used in the management of BPSD. However, prescribing trends heavily favour atypical antipsychotics because of a modest advantage with respect to tolerability and safety.

This article wants to present the side effect of atypic antipsychotics in a old female with mixed dementia with behavioural symptoms who developed progressively accentuated transit disorders in the absence of other detectable causes.

Informations from literature:

Antipsychotic drugs are the drugs most prescribed for behavioural and psychological symptoms, such as aggression or hallucinations, in people with dementia. In some people antipsychotics can eliminate or reduce the intensity of certain symptoms. It is generally accepted that atypical antipsychotics have an important but restricted role in the short-term.

The mechanism of medication-induced gastrointestinal hypomotility is primarily caused by muscarinic cholinergic antagonism. This effect may cause constipation and paralytic ileus, which may lead to fatal complications. Different antipsychotics have different anticholinergic potencies, which should be taken into consideration during medication selection.

One systematic review study recently found history of abdominal surgery, longer duration of psychiatric disorders, and older age to be risk factors of relapse of ileus. Overall, patients treated with antipsychotics had a 1.9 times higher risk to develop constipation compared to non-users. In severe cases, constipation may progress to ileus and bowel ischemia with multiple fatalities related to sepsis and bowel perforation. Therefore, we should pay more attention to antipsychotic-related constipation and further complications, such as ileus, to prevent possible fatalities.

Quetiapine was also prone to cause anticholinergic side effects. In the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) study, quetiapine was found to have significantly more anticholinergic side effects in phase 1, phase 2, and phase 3 trials. Anticholinergic adverse

effects had been found in 27% of the patients treated with quetiapine, and the most common complaints were dry mouth, urinary hesitancy and constipation.
Motor side effects are less pronounced with the group of atypical or second-generation antipsychotics. Other side effects that have received attention in the literature are metabolic abnormalities, cardiovascular risk, prolactin elevation, sexual dysfunction, Q_{tc-} prolongation, myocarditis, cataract. Different groups have published guidelines to screen and monitor patients for cardio-metabolic side effects.
A side effect that has received little attention is constipation. Constipation was described with typical antipsychotics mainly in association with the use of anticholinergic agents. But also some of the newer agents have intrinsic anticholinergic activity and can induce constipation.

Case study:
A 93-year-old patient, known to have neurocognitive disease- mixed dementia for 4 years when she was admitted to our clinic, (in treatment with Memantine, Mirtazapine, Quetiapine), stented Myocardial Infarction -2004 and deep vein thrombosis of the right leg-2021 (treated with Apixaban) shows abdominal flatulence and diffuse abdominal pain with intestinal transit present for faecal matter and gas. Biological assessment and abdominal CT were performed to detect the cause. Since the patient's condition no longer allowed treatment in our residence, she was transferred to the surgery department.
During hospitalization, recto Proctoscopy and ultrasound were performed, which ruled out an oncological cause. Imaging, clinical and biological data led to the diagnosis of intestinal paralysis secondary to medication. After removing Quetiapine from the regimen, stopping oral feeding and evacuation enemas, the patient's condition began to improve slowly.
Due to her advanced age and cardiovascular pathologies, the surgical treatment is delayed, the patient needing mashed food in the form of purees and laxatives in an increased dose with daily transit monitoring.
Behavioural disorders did not appear after the withdrawal of the antipsychotic (we mentioned that the dose of Quetiapine administered to the patient was 25 mg/day). He had mild episodes of agitation that were combated with Valerian and Passiflora supplements.
Biological: iron deficiency anaemia, inflammatory syndrome, hypoproteinemia, normal oncological markers, Cl creatinine=36ml/min/1.73m2.
Proctoscopy: without obstructive elements, faecal matter in large quantities 5 cm from the external anal opening.
Abdominal radiography: mixed intestinal content, distension of the colic loops with a tendency to images on the flanks, opacified costodiaphragmatic sinuses.
Native abdominal CT (renal cronic disease): an important distension of the descending, sigmoid colon and rectal ampulla with increased air and stercoral content is noted
Treatment: Lactulose, Memantine, injectable iron supplements, vitamins, Apixaban

Conclusions:
Constipation associated with antipsychotic treatment is frequent in patients with dementia. It can be severe when early detection fails. It leads to long-term prescription of pharmacological interventions. Clinical staff should be aware of this association and actively screen, monitor and provide early treatment. Preventive action with advice on diet, hydration and adjustment of physical activity levels should be promoted.

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RESEARCH

The influence of COVID-19 pandemic on elder adults' mental health and possible digital interventions to mitigate that effect

Digital inequalities and social exclusion for senior citizens in Romania – digitalization challenges

Age-friendly social policies and smart urban ecosystems. Stage of knowledge

The influence of COVID-19 pandemic on elder adults' mental health and possible digital interventions to mitigate that effect

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Worldwide population is rapidly ageing: between 2015 and 2050 the population aged 60+ years is expected to almost double, from 12% up to 22%. In absolute numbers, this means an estimated increase from 0.9 billion up to 2 billion people aged 60 or more.
Elder adults face special physical and mental health challenges which need to be acknowledged and addressed. Mental health and wellbeing are just as important in old age as they are in any other timeframe; however mental and neurological disorders in older adults account for 6.6% of overall disabilities (Disability-Adjusted Life Years - DALY) in this age group. About 15% of adults aged 60+ years face some mental disorder. [1]

Current knowledge – overview of current literature
Mental disorders are widespread within elder adults, some research suggesting that half of adults aged 65 to 84 years have had at least one episode of mental disorder within their lifetime, while one third of them experienced mental disorder within the past year and one quarter is currently having some sort of mental disorder. Anxiety and mood disorders seem to be the most prevalent ones. Moreover, considerable amounts of elders also associate subclinical psychosocial issues, like solitude and stress. Even though the latter do not account as mental disorders per se, they can result in substantial stress, and they were proven to increase the risk for a number of mental disorders. [2]
Additionally, the past almost three years added sudden and drastic changes due to the COVID-19 pandemic, which altered the physical and mental wellbeing of all people. Elder-aged adults were clinically vulnerable and more susceptible to severe detrimental effects, both directly (getting the COVID-19) and indirectly (as social isolation measures went into effect).
Social isolation and solitude have a negative impact on mental health, particularly in elder adults, and may predispose to the onset of cognitive decline. Adults with existing cognitive impairment may, in their turn, be prone to worsening cognitive and mental status due to the pandemic. Available data suggests that the COVID-19 pandemic yields a wide, negative influence on the mental wellbeing of old-age adults, regardless of being (or not) diagnosed with dementia. [3]

There's a currently increased prevalence of older adults facing depression and anxiety. In response to the increased demand for mental health interventions (which need to be convenient to use and accessible pricewise), there were some recent increases in the number

of digital mental health interventions (DMHI) to be developed and incorporated as part of existing mental health therapeutic interventions. Digital interventions seem promising, given their capacity to provide researchers, clinicians and patients with personalized instruments for assessing existing behaviors, examining, treating and properly caring for patients, which may also be used remotely. Reviews and meta-analyses supported the benefits of DMHI-s in treating and preventing depression and other mental disorders, but there is still much need for studies focused on specific benefits and usage of DMHIs in geriatric populations. [4]

Considering the increasing prevalence of ageing and chronic disease, it is of the utmost importance to focus on healthcare innovation to make personal healthcare better, including self-management care herein. Selfcare / self-management implies that people can be trained to manage their health using their own resources and abilities, thus becoming less dependent on extrinsic factors. [5]

Information technology and communications (ITC) provide some substantial potential for supporting adults in self-managing their health, including chronic diseases. There are however mixed feelings about the benefits and efficacies of ITC interventions in case of geriatric populations with chronic diseases. Existing research enabled the identification of multiple challenges related to both patients and medical care providers when integrating ITS interventions in routine care. The main challenges for geriatric patients were poor technological skills, the lack of desire to develop new competencies and reluctance to using new technologies. There were also some challenges in implementing ITC interventions, for instance slow internet connections or the lack of reimbursement from healthcare systems / private health insurers. However, the main benefits of ITC interventions include their non-pharmacological nature, providing tools for health education, encouraging continuous physical activity and observing a healthy diet. [5]

Mobile digital mental health interventions in geriatric care

Throughout the past years there has been an increasing popularity and availability of mobile digital technologies, which in its turn triggered and pushed forward the development of DMHI, including smartphone applications, remote monitoring and tracking gadgets as well as portable devices, like smart watches and virtual/augmented reality headsets. The World Health Organization, the National Health Service in the United Kingdom and the National Institute of Mental Health in the USA have recently assessed smartphone, desktop and tablet applications as effective, cost-effective and valuable methods for providing accessible therapy in case of mental disorders like depression and anxiety. [4]

Recent research has identified that DMHI may be used in the early identification, diagnostic, management and analysis of mental health status in adult patients. However, there are significantly scarce studies focused on older adults, with unique needs and preferences in terms of technology-based health interventions. Managing daily activities for older adults is an extremely complex endeavor, since most geriatric patients also face a plethora of late-onset chronic diseases. Moreover, vulnerable geriatric populations, like those inhabiting rural areas, are prone to receiving inadequate mental health support due to the lack of mental health care facilities, services and trained professionals in non-urban settings. It is therefore of the utmost importance to acknowledge that the use of DMHI is not limited to being used in primary health care facilities but can also be implemented for usage by people dwelling in remote communities or senior residential care facilities.

As an example, technology may provide senior adults with individual or group access to physical activities using motion sensors or any other "exergaming" technologies, which may alleviate depression and anxiety and may improve the overall wellbeing and quality of life.

Moreover, improving mental health and the quality of life can also be a side effect of using

technology-based services addressing individual needs, like for instance various delivery services, access to transportation and the ability to remotely attend conferences, distance learning and remote socialization events.
DMHI research yields the potential to lead to major discoveries in terms of interventional research in various diseases/disorders since it may reach populations which would otherwise lack access to standard mental health interventions, therefore expanding the boundaries of existing available services and overcoming geographical barriers by providing services to remote areas.
Despite all promises held by DMHI, there's also some threat posed by digital inequities: older adults may be unfamiliar with the new technologies and hence may feel excluded; this may aggravate their perception of existing inequities in medical care, thus aggravating their tendencies to avoid getting help and perhaps even triggering self-deprecation feelings.
The main advantage of DMHI is the opportunity they bring in terms of leveling inequities in terms of accessibility of mental health resources. However, there are presently few studies analyzing the effect of DMHI in populations specifically challenged by particular social and physical confinements.
As part of the (already vulnerable) elder adult population, there is an even more vulnerable subpopulation, like those dwelling in abusive homes, the homeless, the poor, racial minorities, refugees, gender/sexual minorities and those afflicted by physical disabilities and chronic diseases.
Schueller et all [7] widely covered how digital interventions may provide opportunities to attenuate mental health disparities within marginalized populations, stating that technology may be adapted to be more culturally sensitive and lower priced and, also, may overcome time, geographical and language barriers. In spite of all this progress, it was understood that each marginalized older adult subpopulation has different strengths and needs in terms of DMHI usage. Intense works are required to transpose into real life the true potential of technologies in terms of responding to the mental health requirements of various old-aged target groups.

Impact of COVID-19 pandemic on elder adults' mental health

The current COVID-19 pandemic implied abrupt, generalized changes into our lives, exceeding the direct effects of the infection per se and its consequences over the physical and mental health of those affected. Equally relevant were also the psychosocial effects of the measures enforced by governments worldwide for the purpose of containing the spread of COVID-19 given the traumatic course of events experienced by all those directly involved in this crisis. The biologically mediated effects of COVID-19 have proven to be multiple. Amongst the numerous clinical effects observed in severe COVID-19 patients there were also a wide variety of neuropsychiatric signs, even if any other signs and symptoms were absent. Similarly, the psychosocial effects of the pandemic on worldwide general population as well as on first line responders and patients with preexisting psychiatric disorders were largely covered and documented. [3]
Ever since the beginning of the pandemic there were special concerns aimed at protecting the most clinically-vulnerably people in our society, including herein the elder adults.
The research performed based on the clinical data accrued in the first half of 2020 and the prognosis predictive models clearly suggested that elder adults were particularly vulnerable to COVID-19, especially if suffering from comorbidities like Alzheimer's Disease (AD). The psychical wellbeing of people with dementia undergoing social isolation is also of an extremely high risk and the rigorous clinical management of such people is regarded as a top priority, especially for those dwelling in residential homes, since up to 98% of them have neuropsychiatric symptoms.
A significant correlation between social isolation and mental health and the cognitive ability levels was already observed in elder adults and seems to be induced by solitude, meaning by

that the subjective perception of social isolation. Moreover, it was discovered that higher levels of solitude were significantly associated with a brain volume decrease in left medial temporal lobe, typically involved with memory and severely damaged in Alzheimer's disease. Consequently, two recent meta-analyses suggested that both poor social involvement / isolation (for instance, living alone, being part of a limited social network, being prone to less frequent social contacts or benefiting of insufficient social support) and being lonely can significantly increase the risk of developing dementia. Therefore, an abruptly and drastically restricted social environment may be particularly detrimental for elder adults and may contribute to the aggravation of neurological ageing and neurodegenerative processes.
Searches performed on PubMed and Web of Science for identifying all relevant papers published before July 7th, 2020. Two independent reviewers have verified and selected the papers adequate for inclusion. There were some additional papers, manually added, which were not identified in performing the search. An overall 15 papers were included: 8 were focused on psychiatric symptoms caused by COVID-19 while the other 7 investigated the impact of social isolation on neuropsychiatric symptoms in elder adults. Four studies included older adults without dementia while 11 included patients with cognitive impairment, mainly due to Alzheimer's. All studied concluded that various neuropsychiatric symptoms occurred and/or were aggravated in all elder adults, regardless of preexisting dementia. Such changes were noted as a result of both COVID-19 and of extended measures imposed, requesting social isolation. Delirium, agitation and apathy were the most frequently detected symptoms, especially in case of preexisting dementia. Accumulated evidence suggests that COVID-19 has a negative, wide impact on mental wellbeing for geriatric patients, with or without preexisting dementia. The viral infection and the social isolation imposed for containing the spread of the virus yield a range of neuropsychiatric consequences. Wider studies are needed, more robustly designed in order to clarify such effects and to assess long-term implications for geriatric patients' mental health and for testing possible mitigating strategies.

Conclusions

"Vicious circle" when using technologies for diminishing the impact of isolation and solitude on mental health

Besides the COVID-19 threat, elder adults generally face the highest rates of social isolation and solitude, typically associated with a plethora of negative consequences on mental health. Physical distancing may also yield a negative influence on older adults dwelling in communities, especially for those relying on support and formal or informal care from family and/or friends, for those using the religious or community centers as social focal points, as well as those dwelling in assisted residential or support homes (where gatherings in common areas like common dining rooms or activity rooms was banned for the purposes of physical distancing). The double burden of lessening the "social bubbles" due to ageing when aggravated by physical distancing restrictions and forceful quarantine/isolation pose significant threats for the mental health of geriatric patients.
In response to the official requests to stay home there has been an important transition to online communication platforms as means to promote and maintain social connections; however older individuals used such technologies with disproportionately lesser rates as compared to younger individuals, both during and after the COVID-19 pandemic. This was mainly due to the "digital inequity" due to the generation gap, with barriers in adopting digital technologies, thus exerting a terribly inhibiting force against digital social connections amongst older individuals, when observing the requirements to stay home. The first tier of digital inequity involves inequities related to adopting and accessing technologies (for example, financial limitations), while the second tier involves actual barriers when using such technologies (for example, functional deficiencies like poor dexterity). Moreover, videoconferencing and/or communication solutions were not developed specifically for older

individuals, which resulted in low usage rates before the COVID-19 pandemic and thus in difficulties in accessing and using such platforms during the pandemic.
We are therefore confronted with a vicious circle [8], in which the negative effects exerted on mental health by social isolation and solitude amongst older individuals should be alleviated by using digital solutions, but this would only be possible if the said individual already has the knowledge, the will and the technical access point required for using such technologies. Moreover, while being deprived of face-to-face interaction with older individuals during the COVID-19 pandemic, providing guidance about technology usage was a huge challenge; the challenge was even more difficult due to the physiological, age-related deficits (for instance, diminished visual acuity, reduced manual dexterity or cognitive impairment). Despite its huge potential, the impact of implementing social isolation and solitude mitigation mitigating technologies was quite limited in terms of products and services, within the real world. Unfortunately, most times the individuals that would benefit the most from digital technologies are precisely the most vulnerable and the least-probably prone to access these technologies. Major shifts are therefore required in research culture, from researcher- and technology- driven research to real-life situation focused problems and solutions. Digital inequities include a relatively large lump of problems, especially when considering this pandemic; we should therefore focus on the challenge of developing accordingly the specific technologies disregarding the perspective of older individuals.
We should aim on the short run to promote the adoption by elders of existing technologies, perhaps by having training sessions specifically designed for older individuals, and to address the normally occurring, age related changes which prevent from using the technology (for instance, alterations of memory, vision or mobility); on the longer run, we need to involve older individuals in all developmental stages throughout the lifecycle of developing new technologies. Promising evidence suggests that participative digital co-design, if defined as a combination of user-centered designing models and community involvement, lead to higher adoption rates for mobile technologies within the mental health disorder population. The COVID-19 pandemic surely outlined the deficiencies of existing technologies and the main challenges in adopting and using them; however, co-designing strategies may be fruitful when addressing these challenges both in terms of adopting existing technologies and in developing new innovative technologies.
In populations excluding mental health disorders, the participative, digital co-design lead to promising developments, yielding promising potential for more relevant research, with better impact, better internal validation and a more rapid translation of research into practice – hence higher engagement; it therefore holds the potential do diminish the digital inequities.
Incorporating such strategies will hopefully address some of the negative side-effects on mental health for older individuals in the context of social distancing, both during and after the COVID-19 pandemic.

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Digital inequalities and social exclusion for senior citizens in Romania – digitalization challenges

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Abstract: *Romania is becoming a rapidly ageing society. Supporting seniors thus becomes a significant challenge, and promoting digital technologies is an effective way of handling the matter. Decreased digitization for seniors needs to be interpreted as part of multiple digital inequities. Besides the already obvious generation gap (age being one of the driving factors for digitization), there are also other significantly impacting factors, i.e., poor education and / or income levels, somewhat characteristic to the state of seniors and also strongly correlated to their lesser adoption of newly emerging technologies. The present paper investigates the current usage of Internet amongst senior Romanians and the main underlying factors involved in lesser usage of digital technologies. The study investigates the underlying causes and factors explaining the decreased digitization of services in seniors aged 65 years or more, using data available and known from Romanian societal studies.* An overall *n=582 subjects aged ≥65 years were randomly selected in the Bucharest-Ilfov counties and answered questionnaires between May 1st – July 31st of 2022. The questionnaires were collected for the purposes of descriptive statistics and for analyzing factors involved. Amongst the respondents, n=258 (44.3%) did use the Internet and filled in all questionnaire items. About half (53.9%) stated they spend online less than 2 hours daily and more than two thirds (75.2%) went online 5-7 days a week. Online chatting was their main preferred activity (74.2%), followed by social media activities (68.2%), reading online news (45%) and searching information online (39.5%). We concluded more measures are required to reduce barriers to internet proficiency and to promote digital technologies. Public authorities, digital equipment manufacturers and seniors' families and carers should join forces to create the premises for seniors to take better advantage of online technologies.*

Introduction

The early digitization studies are focused on digital television (Norris, 2000), a concept still actual nowadays (Arroyo-Menéndez, Gutiérrez-Láiz and Criado-Quesada 2022, 953). For the purposes of this paper, the digital inequity is defined as „ the disparity between those with access to internet technology and those without" (Van Dijk, 2020, pp 1). The economical interpretation focuses on explaining mainly the digital inequity related to existing infrastructures and access devices, therefore suggesting the digitization can be explained by (and correlated to) the territorial development status (Ragnedda, 2017).

As internet usage became widespread, access inequities decreased, however inequities in user's access quality and methods inequities persist (Calderón-Gómez, 2019). Ever since the first decade of 21st century, the focus shifts to a second level of digital gaps, going further than access inequities, since it became of the utmost importance to also examine digital competencies and types of usage. This perspective shift was associated with a lesser focus on geographical differences and more focus on other relevant variables in social constructs like age, gender, study levels and family income.

Dimaggio (2001) criticized geopolitical perspectives, still dominant by that time. He claimed that expanded internet coverage within the population as well as expanding internet services and infrastructures did not guarantee any reductions in digital inequities, by proving that there were territories providing universal internet access that still present with important inequities. This shifted the academic focus from whether internet access if available or not, to usage pattern discrepancies and digital literacy. In the new focus, the explanatory focus of social variables is increased as compared to geographical variables, thus outlining the major impact of variables like gender, education, age etc.

What is outstanding is that, even though the geographical and spatial inequities with regard to Internet access decreased as the Internet expanded, they are still actual, however surpassed by social variables. This is due to having a shift of interest from geographical to social issues, as well as to assigning a lesser, secondary role to causal analyses on digital usage for geographical variables when compared to social variables.

Whenever, in spite of the emerging importance of such inequities, the causal studies are indicative of a lesser explanatory capacity of social-spatial variables as compared to other social variables, this may be due to blaming social structure inequities not only on digital inequities but also to particular, special inequities, like for instance populational segregation, thus further contributing to the digital exclusion of senior adults.

According to Bloomberg (2018), "digitization" is often used to cover for two interlinked but distinct notions: "digitization" and "digital transformation". Digitization refers to the process of switching from analog to digital technologies. Gartner (Bloomberg, 2018) shows that digitization consists of using the digital technologies for changing a business model and for providing new revenues and new opportunities for generating revenue. Digitization is thus a wider, quantifiably-challenging concept.

Digitalization and senior adults

It is commonly accepted that senior adults are low-level digitized, and that age is one of the most discriminative variables in terms of accessing the Internet and information technologies (Noichl & Schroeder, 2020; Alexopoulou et al, 2022; Vulpe & Crăciun, 2020). However, there are not so many studies focused on this age group, especially in Romania. Studies claim that the low-grade digitization in this group is due to age (Huxhold et al, 2020; Mubarak & Suomi, 2022). Starting from these claims, this paper attempts to identify whether other, age-unrelated variables are relevant (and to further quantify them). Reviewing the literature confirms that elders tend to have lesser education levels (Shin et al 2021; Chen et al 2020), lesser incomes (Huxhold et al, 2020; Ivan & Cutler 2021) and tend to live mostly in rural areas (Golomski et al, 2021) than their younger-aged counterparts. Important social inequities reside in such variables. We therefore attempt in this paper to better understand the decreased digitization level of elder adults. Table no. 1 captions the variables cited in the literature reviewed leading to poorer digitization levels in elder adults.

Table 1. Variables Cited in Reviewed Literature

	General Considerations	Inequities	Reviewed Literature
Age	This is the first variable to consider since there were significant gaps noted between elder and younger age groups. The age variable is correlated with other variables, like education or income levels, which may explain the differences between the age groups as long as their interim effects are not excluded.	There are two reasons why age may impact and induce poorer digitization: the cohort effect and the lifecycle effect. - can be explained by different socializing and learning patterns in various age groups. - also refers to physical limitations and to the adaptation of age-related lifestyles.	Chua, S.L.; Chen, D.-T.; Wong, A.F., 1999; Bouza, F., 2003; Van Dijk, J., 2006; Reisenwitz, T., 2007; Dean, D.H., 2008; Van Deursen, 2010; Van Deursen, 2010; Torres-Albero, 2017; Calderón-Gómez, D. U, 2019; Huxhold et al 2020; Mubarak & Suomi 2022.
Education	Explanatory power	Age-specific	Bouza, F. 2003; Navarro Beltrá, M., 2009; Fernández-Ardèvol & Ivan, 2015; Calderón-Gómez, D., 2019; Chen et al, 2020; Robles, J.M. 2021; Shin et al, 2021;
Income sources	It is one of the determining variables, besides age and education	Major	Giner-Pérez, J.M., 2008; Charness & Boot, 2009; Cresci et al, 2010; Lelkes, 2013; Neves & Amaro, 2012; König et al, 2018; Huxhold et al, 2020;
Gender	Educational inequities worldwide, in various countries	Even though differences significantly diminished recently, they still exist in terms of usage and literacy.	Castaño, C., 2008; Helsper, 2010; Van Deursen et al, 2015; Yang, J. & P. Du, 2021.
Geo-spatial variables	There are multiple bibliographical references to territorial or geo-spatial inequities	The size of the city, demographic density and territorial division per provinces.	Hindman, D.B., 2000; Giner-Pérez, J.M., 2006; Clark, Benjamin et al, 2013; Arroyo-Menéndez et al, 2022

Source: drafted by the author, based on the literature reviewed

Physical restrictions, educational levels, mass-media related age stigma and the lack of continuous social support are the main causes of digital inequities. Hence there is a negative correlation between internet usage and age, as elder Internet users' percentage is lesser than in their younger counterparts. Elder adults feel like advancing in age prevents them from adopting and using new technologies. Geriatric research suggests that the cognitive decline in brain aging mainly includes sensory and perception levels, the decreased visual acuity, narrowed field of vision, poorer adaptation to strong light, hearing impairment, decreased sensory perception, lesser flexibility of fingers and joints (leading to poorer skills in typing and using the mouse). Such physical barriers posed by ageing do hold a significant impact on internet usage by elder adults (Floria Kohlbach & Cornelius Hestadt 2016). Meanwhile, elder

adults are also more susceptible to being influenced by ideas, habits and educational levels and tend to resort to traditional methods.

Education levels are also an important factor for digital inequities amongst seniors. Traditional literacy abilities decrease as age progresses. Reading and writing skills may also contribute to the digital inequities, since elder internet users with higher education are more engaged in cognitive improvement activities like reading news and briefs and therefore the ability to access and use internet mediums ranges, depending on education statuses.

Mass-media occasionally misrepresents the image of senior adults, presenting them in negative-connotation situations, which leads to stereotyping and exclusions. Anxiety and mass-media discrimination as regards elders' participation in media culture reflects differences and contradictions between choices of media in various groups and also reflects conflicts of shared values between various groups. Side-news reports about events dedicated to "elders" may easily become focal points for public opinion and thus a mass-communicated negative misrepresentation of elder adults may lead to senior adults' stigma.

More aspects however need to be subject to debate. Senior adults are often overloaded by rapid progression of digitization (Berg 2020). A quantitative study in 2019 revealed that the main reasons behind elder adults' not using digital technologies (according to Wilhelm et al, 2019) were: fear of online frauds (47%), lack of functional knowledge (46%), lack of support (41%) as well as difficult operation (36%). There is therefore a need for particularized training and support for diminishing such barriers (Sczogiel et al, 2020).

Elder adults are also partially prevented from using the internet due to security fears or due to a low self-assessed internet literacy. Berg noted in the study that 41% of respondents aged 65 years or more claim they were not familiar with the internet (Berg 2020). Hence another factor which may limit internet usage in elder adults may be age-induced cognitive impairment.

Digital inequity for elder adults may be more than a mere consequence of age, but may as well be a result of age group inequities in terms of gender, education and income. Such effect may be regarded as a double peril since an individual's chance to gain access to the internet may be impacted not just by ageing but also by other sociodemographic variables, at the same time. Therefore, considering the demographic changes leading to an accelerated increase of ageing population, identifying which lead factors do specifically limit seniors' digitization becomes crucially important. Such information may assist in developing policies and targeted interventions as countermeasures to expansive social inequities with regard to internet access and usage.

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Age-friendly social policies and smart urban ecosystems. Stage of knowledge

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A brief history of age-friendly social policies

The "age friendly" concept has gained international recognition through the policies and guidelines developed by the "World Health Organization" (WHO). At the first United Nations (UN) World Assembly on Aging in 1982, affiliated countries endorsed the Vienna International Plan of Action on Aging, the first major international declaration on aging, by launching its policy framework on active aging (Resolution 47/86), which includes eight age-friendly dimensions: outdoor spaces and public buildings, transport, housing, social participation, respect and social inclusion, civic participation and employment, communication and information, community support and health services (WHO, 2007a). . The goal was to "optimize opportunities for health, participation and security to improve quality of life as people age." WHO sought to extend the ideological approach to aging beyond physical health to all meaningful engagements – social, economic, cultural, spiritual and civic, to create a framework for assessing the compatibility of the environment for the elderly and to monitor the progress of public policies in this direction. Since then, the framework has been used as a basis for developing age-friendly public social policies.

Closely related to the age-friendly concept is the concept of active ageing. Thus, an effective response to the aging phenomenon is based on a large-scale intervention at the level of public policies, involving various public entities at local, regional and central level - a holistic approach - in close collaboration with other interested parties - including by involving civil society. The challenges presented through this cooperation should be considered by policy makers in the design and implementation of policies that promote active aging, catalyzing efforts to improve the physical and social environment for the elderly (Fernandes et al., 2021).

The WHO proposed that policies, services and structures in an age-friendly city, which are linked to the physical and social environment, should be designed to support and enable older people to 'age actively'.

In the 2019 Declaration on Policies for Building a Better Future for Regions, Cities and Rural Areas, OECD countries considered aging is one of the megatrends causing profound changes to regions (OECD, 2019). Population aging certainly has an impact on the quality of life in local communities (urban and rural alike) and dictates the directions of economic and social policy transformations at national, regional and local levels.

Population aging is seen as a determining factor for the development of programs for sustainable, smart and inclusive local development (ENRD, 2018) Solutions should be planned in an integrated way and their fundamental assumptions must reveal the demographic challenges and opportunities offered by the revolution technological.

With a percentage of elderly population that represent a considerable part of the total population, which increases considerably every year, public policies in Romania began to pay attention to this aging phenomenon, which took shape in 2014, with the publication of the National Strategy for the promotion of active aging and the protection of elderly people for the period 2015 - 2020. However, as far as we know, there is a lack of studies focused on how

the Romanian local public administration and other interested parties approach the phenomen of active aging. After this strategy's plan of measures , that was not implemented, another strategy was not developed or implemented after 2020.

The concept of age-friendly cities and communities (AFCC). Brief introduction

The topic of age-friendly cities and communities emerged as a result of a set of policy initiatives launched by the World Health Organization (WHO) in the 1990s and early 2000s. A central theme running through these policy initiatives is the notion of "active ageing" (WHO, 2002), previously discussed, which refers to the idea that older people should be able to continue to participate in social, cultural, spiritual, economic and civic issues. This idea, in turn, led to the launch of the WHO Global Age-Friendly Cities project (WHO, 2007a). In many cities around the world, focus groups have been held to identify those factors that make urban environments 'age-friendly'. The project defined an "age-friendly city" that encourages "active aging by optimizing opportunities for health, participation and security to improve quality of life as people age" (WHO, 2007a; Remillard-Boilard et al., 2021; van Hoof, Marston, et al., 2021). The program launched in 2010: "The Global Network of Age-Friendly Cities and Communities", sought to encourage the implementation of policy recommendations.

The Age-Friendly Cities and Communities (AFCC) movement has inspired people around the world to imagine ways in which localities can better support the health and well-being of age 3 residents as they age. About 15 years ago, the World Health Organization (WHO, 2007) described age-friendly cities as follows: "In an age-friendly community, policies, services and structures related to the physical and social environment are designed to support and enable older people to 'age actively' – that is, live safely, enjoy health and continue to participate fully in society" (p. 5).

More recently, researchers have defined AFCC initiatives as "deliberate and distinct efforts among stakeholders from multiple sectors within a defined and typically local geographic area to make social and/or physical environments more conducive to adults' health, well-being, and ability to aging in place and in the community" (Greenfield et al., 2015, p. 192).

Since the mid-2000s, the promotion of AFCC has attracted the interest of various actors at several levels: governmental organizations, non-governmental organizations, researchers and the industrial environment. WHO has played a vital role in outlining the age-friendly agenda or framework.

From incremental changes to transformative changes, AFCC policies and those who promote them aim to improve social built environments and services to address the challenges and opportunities of aging in the community.

Despite the tremendous growth of the AFCC movement over the last decade (WHO, 2018), the systematic development of knowledge on initiatives to promote policies of age-friendly cities and communities has developed more slowly (Greenfield and Buffel, 2022, p. 163), and initiatives from our country are even rarer. Worldwide, there is an expanding literature on the different aspects of an age-friendly community and their importance for the well-being of seniors, but in the Romanian literature this theme is not sufficiently developed, there are significant gaps in knowledge about how to work, at the social policies needed to change the environment and systems to better meet the needs of people as they age.

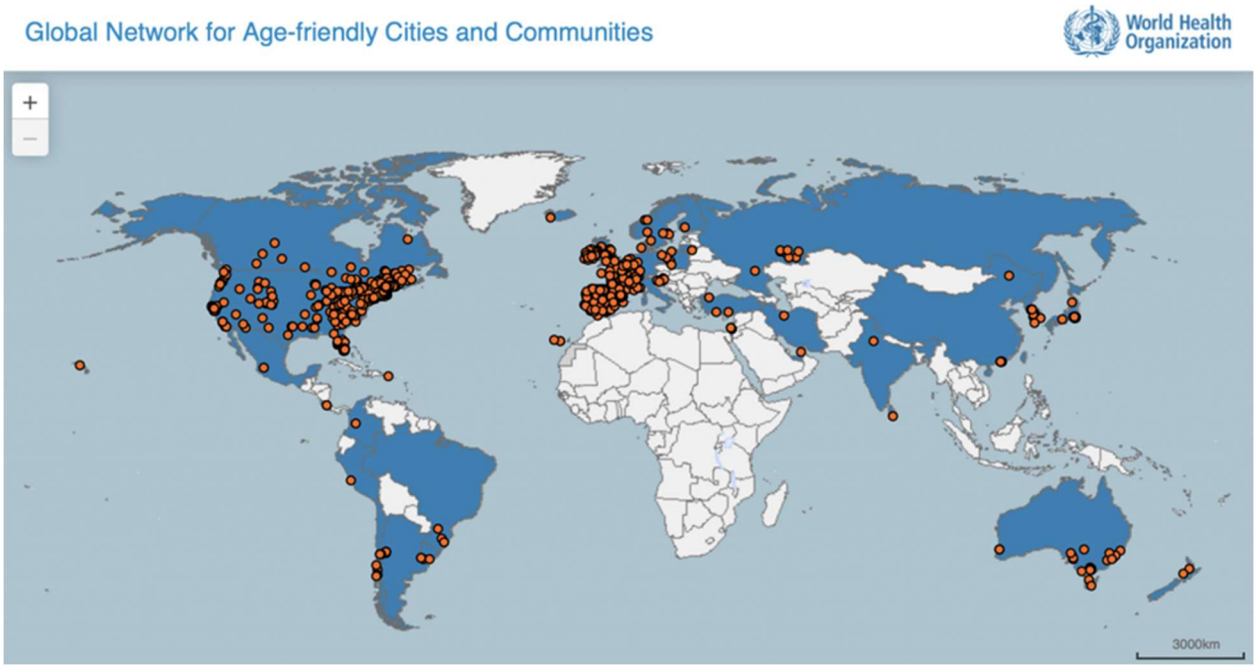
In order for AFCC social policies to have a greater impact in Romania, we aim to critically analyze research on the practices of individuals and organizations in their work to translate objectives, assessments, plans, tools and commitments into action and impact. Finally, the aim is to describe the contexts that present challenges and opportunities for these efforts, with a focus on social policy.

Although the AFCC initiative has been well received, it requires local partners to promote the project and strengthen the community, which can be challenging. Diverse partnerships between government institutions, non-governmental organizations, the private sector and academic institutions are also critical to success. At the same time, feedback from seniors is extremely important. Starting from the framework established by the WHO and the set of indicators for monitoring and evaluating progress in improving the adaptability of the urban environment, the basic indicators were structured around three key principles: equity, accessibility of the physical environment and inclusion of the social environment (WHO, 2015). In assessing the strengths and weaknesses of a city, older people will describe how the WHO checklist of characteristics (WHO, 2007a) matches their own experience of the city's characteristics. They should play a role in suggesting changes and implementing and monitoring improvements (WHO, 2007), as in order to create age-appropriate living environments, it is of the utmost importance to involve older people in the design of their living environment, especially because the importance given to old age can vary greatly (van Hoof et al., 2022).

In a first phase, WHO led a research project that examined the experiences of older people living in urban environments (WHO, 2007) and subsequently established the Global Network of Age-Friendly Cities and Communities (Global Network; WHO, 2018). Starting with just 12 communities in 2010, this network reached a membership of 1,333 cities and communities in 47 countries in 2022 (WHO, fa), covering more than 298 million people worldwide. The global network connected cities and communities around the world to facilitate the exchange of information, knowledge, practices and experiences to improve physical infrastructure (housing, outdoor spaces and buildings), social environments (opportunities for social participation) and provision of services (community and health services, transport).

As for the Global Network, barriers to dissemination included language skills, resources, and communication among members. Africa is the only region without network members as of 2020 (https://extranet.who.int/agefriendlyworld/who- network/). Network membership is not a designation, but reflects a member's commitment to making progress toward the goal of becoming more age-friendly. The map below shows that no city in Romania has joined the AFCC Global Network.

Figure no. 1. AFCC Global Network



Source: WHO, (2022), Available at: https://apps.who.int/agefriendlycitiesmap/, accessed on 19.06.2022.

The growth of the network has been stimulated by the involvement of organizations from around the world, including the International Federation on Aging (2022), AARP (fa), and AGE Platform Europe (fa).

The United Nations (UN) Initiative - Decade of Healthy Aging 2021-2030, a global collaboration aligned with the UN Sustainable Development Goals, further strengthens the goal of creating age-friendly environments to promote healthy ageing. This initiative brings together international agencies, governments, civil society, academia, the media and others in the private sector to improve the lives of older people, their families and the communities in which they live. The Decade addresses four areas of action, one of which is the creation of "age-friendly environments". This field of action involves the promotion of physical, social and economic environments that are good places to "live, work and age" (WHO, 2020, p. 9). The framework emphasizes the importance of community-centred approaches to improve policies, systems and environments in support of healthy and equitable aging (Keating, 2022; Dogra et al., 2022) – an issue that has been further accentuated by the pandemic. COVID-19 (Phillipson et al., 2021; Zingmark et al., 2022; Koivunen et al., 2022).

Attention to AFCC is also increasing in academic research, Torku and colleagues (2021) systematically reviewed the AFCC literature up to 2018 providing evidence of the magnitude of the increase in research volume in this area. Their review found an accelerating trend in the number of AFCC publications each year, particularly since 2014, and documented a collection of articles in four sub-areas:

Taken together, the academic work on AFCC has recorded a variety of achievements. Such achievements include a greater recognition in urban and regional planning of the implications of an aging population, particularly with regard to the (re)design of outdoor spaces, housing and transport (van Hoof et al., 2021; van Hoof, 2020) . The AFCC movement has also inspired

campaigns to change societal narratives about aging and to reduce the stereotypes, prejudices, and forms of discrimination people experience based on their age (Remillard-Boilard et al., 2021). Moreover, AFCC's efforts have fostered new models and community-based approaches to promote the active involvement of diverse groups of older people in the co-production of age-friendly research, policy and practice (Dabelko-Schoeny et al., 2022; Remillard-Boilard et al., 2017).

Finally, the AFCC movement has expanded the boundaries of the field of aging and advocated support for interdisciplinary work (Fulmer et al., 2020), linking fields such as urban design, architecture, sociology, social policy, social gerontology, community development, public health, healthcare and others.

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NEWS

Stress Congress 2022

(selected abstracts)

COST Actions:

- Report on SHAFE policies, strategies and funding

SHAFE (Smart Healthy Age-Friendly Environments) –

- Position paper on ethical, legal and social challenges linked to audio- and video-based AAL solutions

Stress Congress 2022

On October 8, 2022, the work of the 5th online edition of Stress Congress 2022 was completed, with the theme: **"Stress, multidisciplinary challenge in the new medical, social, economic and military paradigms"** - a national event with international participation, organized annually under the High Patronage of the University of Medicine and Pharmacy "Carol Davila" Bucharest, in collaboration with the Ana Aslan International Foundation.

STRESS CONGRESS 2022 :

- **3 days of congress (6-8.10.2022), with over 24 hours dedicated to the multidisciplinary analysis of stress, including from the perspective of capitalizing on the results of scientific research and innovation;**
- **More than 60 Romanian and international lecturers from various specialties and areas of expertise;**
- **More than 500 participants: doctors from various specialties, psychologists, students, pharmacists, nurses and other interested persons;**
- **Interdisciplinary approach to stress and a complex program of excellence, structured in 17 panels, three round tables, a webinar/hackathon, an e-poster contest for doctors/researchers:**
- **3 round tables aiming at: Geopolitical and health context in stress management and public policies, CBD: innovative approaches in stress management and contradictions; The importance of medical recovery.**
- **17 panels, which ensured the correlation between stress and various pathologies, between medicine, psychology, scientific research, innovation, including the new medical, social, economic and military paradigms, with themes regarding: stress, in the new socio-medical paradigms, stress in the new military paradigms, stress, in the new medical paradigms, oncological stress, post Covid stress state, classic and alternative perspectives in dealing with stress, the importance of health workers in the long-term care of the elderly, specific stress in different medical specialties, recovery medical and its importance for quality of life and longevity, stress in neuroendocrinology;**
- **special session dedicated to scientific research, in which information of interest, funding opportunities, difficulties, including proposals for improving procedures, best practices, ongoing research programs, etc. were presented, including a hackathon with news and best practices in research, the presentation of fundamental and applied research results being a source of scientific progress and dynamics;**
  - An e-poster competition for doctors/researchers, with 5 winning doctors/researchers with e-posters on:
  - The use of Machine Learning in the early detection of psychiatric symptoms in Parkinson's disease;
  - Drug hypersensitivity reactions in the elderly: diagnostic and therapeutic features;
  - Stress as a challenge among medical personnel in a pandemic and military context;
  - Stamina - intelligent support for stress management in the pandemic;

- The impact of professional stress in triggering cognitive disorders;
- The impact of physical activity on the intestinal microbiota with implications in the healthy aging process.

- **A framework for ensuring the expression of the vision, performance and cooperation of the university/academic community, with professionals involved in the medical field, in scientific research and in innovation, including the coordinated, persistent and, above all, sustainable effort to corroborate novelties and good practices in these fields at national, European and international level, which contributed to increasing the scientific and educational value of the event and strengthened the relational, cross-border cooperation component of health and research professionals;**
- **An open platform for dialogue and for the promotion of values and in-depth knowledge, verified information, in a constructive form and academic freedom, inducing excellence and a synergistic effort, for a sustainable future in the field of education, medicine, scientific research, innovation, in the context of new medical/social paradigms.**

More information: https://stresscongress.org/editii/#2022

We present here a selection of the presented works.

A special Stress Topic: The Languishing phenomenon in the context of post Covid Status

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Stud. Med. Horia Petre Costin and Stud. Med. Razvan-Adrian Covache-Busuioc
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The Coronavirus pandemic has brought to the foreground a new emotional and special stress state called Languishing. This feeling was provoked by a chronic fear produced by the Coronavirus since it represented such a sudden change of our daily life habits.

The Coronavirus realized pressure on both medical personnel as well as on every person since it signifies a real danger for our health. Moreover, this new virus affected the economy and the entire field of work, population were fired and the everyday life became harder and harder for

most of the people. All of these criteria determined a great stress concerning the nervous system.

The symptoms of Languishing are represented by a feeling of helplessness and a lack of desire to set new goals and targets since there were long quarantine periods for so many people. Therefore, Languishing is positioned between depression and a flourishing emotion, altering people's daily lives for long periods of time. Since the Coronavirus pandemic put under pressure the health, income and daily habits of everyone, the nervous system was directly affected by this great stress leading to a negative way of thinking about life and an absence of desire.

Although the term "Languishing" gained popularity during the 21st century, this emotional state was not presented for the first time in our recent times. The first accounts of these feeling date back to Ancient Greece and bore the name of "Acedia", which translates to "a lack of care".

The entire fight against the viral infection Covid-19 and then to limit and prevent the phenomena of dysfunction of the nervous system post covid 19, is carried out through the multiple preventive measures and through the correct and sustained treatment on all levels, in the framework of the appearance of this condition which can affect all endothelium of the body. The stress on the nervous system created by Covid-19 must be limited based on the multiple knowledge accumulated in the entire literature.

However, the best treatment for Languishing is considered to be an open discussion with friends and family, without trying to hide or deny this negative emotional state which became more and more common since the Coronavirus pandemic.

Peace within ourselves! Wellbeing as a fountainhead nurturing inward and outward growth

Mihaela-Viorica Ruşitoru,

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Background: Demographic and socio-educational challenges are generating several major conceptual and practical transformations in disciplines such as education, health sciences or gerontagogy. In the context of secularisation, pandemic and geo-political conflicts, research and action in wellbeing, education, and mental health is currently required.

Methodology: Lifelong learning became an economic imperative of our societies. Nevertheless, being educated throughout life must also be founded in a social and personal manners. Thus, the main aim of our contribution is to analyse what is the specificity of Lifelong learning nowadays and how could people acquire wisdom, wellbeing, and other fundamental values for ensuring a peaceful life?

Main results: To give an answer to this research question, we will realise a comparative analysis of the norms learning and the acquisition of wisdom. The theories of wisdom and motivation (Lemieux, 1992 and 2001), educational reciprocity (Labelle, 1996, 2017) or differentiated pedagogy (Meirieu, 2016) highlight the link between Lifelong learning and mental and spiritual health.

Conclusions and discussions: Education and training approaches for people of all age should be redesigned to incorporate the procurement of wisdom, wellbeing, and fundamental values. But a question remains: are our societies able to instigate for public policies focused on wellbeing, wisdom, and Lifelong learning from the axiological perspective?

Operational stress impact on health status in military personnel implicated in external missions. The evolution of some biomarkers –

study on cardiovascular risk

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Stress within the military environment is a reality, the specific features of this type of organization being undeniable sources of occupational stress. Participating in foreign missions increases stress levels, having the potential to influence health status. Therefore, the periodic evaluation of cardiovascular and metabolic risk factors becomes an absolute necessity, since cardiovascular diseases have an important weight in the existing morbidity.

Methodology. This observational study took place during 2020-2021. Cardiovascular risk biomarkers (total cholesterol, triglycerides, uric acid, blood glucose, ALT, AST) were evaluated in military personnel from the Romanian Naval Forces, who participated in foreign missions (n=204) or did not (n=100, control lot). Biomarkers were assessed both before the start of travel and after returning. For people in the control group, biomarkers were assessed approximately one year apart.

Results. Although there were no significant differences between the control group and military personnel on foreign missions, we found that approximately half of the study participants presented values of at least 200 mg/dl of total cholesterol, which may indicate a present cardiovascular risk. We also identified a higher percentage of people with blood sugar > 100 mg/dl among the control group (39% versus 5.8%). In the case of triglycerides, statistically significant decreases were found in the studied group. Regarding uric acid, among those with initially normal values, 8% presented elevated values upon return from the mission, while among those with elevated values upon departure, 88.2% returned with normal values. Regarding transaminases, it can be said that in the case of TGO there are significant differences between the groups (p=0.016), with the presence of obviously increased values in the control group, and for TGP it was found that among those who went on the mission with values above the upper limit of normal, 78% returned with normal values. It is important to note that 2/3 of the military personnel on foreign missions are under 40 years of age, thus a young segment of the population.

Conclusions/discussions. Military personnel have an increased cardiovascular risk, generated by exposure to multiple risk factors, starting with the stress involved in the military environment, on the one hand, associated with everyday stress and lifestyle, on the other.

The stress caused by participating in foreign missions does not influence the evolution of

cardiovascular risk markers, compared to carrying out specific activities in the country.

The complete, integrated assessment, from a physical, biochemical, psychological and nutritional point of view, followed by the necessary counseling at each level, we believe becomes essential for the prevention of cardiovascular disease and the reduction of risk in this occupational category.

Health Promotion, Disease Prevention and Treatment in Older Adults by Physical Activity and Exercise

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Human ageing is inevitable and irreversible; affecting every physiological function of our body. On top of this, our lifestyle, dependents on the levels of our physical activity and exercise, can lead to decline in muscle function and cardiorespiratory fitness; and, in consequence, leads to an impaired capacity to perform daily activities and maintain independent functioning in older adults.

Physical activity acts as a preventive strategy for chronic diseases (cardiovascular, diabetes, osteoporosis, metabolic syndrome, and obesity), functionally improves the musculoskeletal system, prevents neurodegenerative diseases, and maintains mental health and quality of life; reducing mortality. It alleviates characteristics of ageing related frailty and increases cognitive function, thus improving functional capacity in older adults. In these pathological situations, physical activity, sport, and structured exercise become a therapeutic agent.

Physical activity can thus become an alternative to pharmacological treatment, playing a leading role in health promotion, and in the prevention and treatment of diseases in older adults. Prescribing physical exercise can be approached in terms of modalities and specific doses. This presentation emphasizes the impact that physical activity has on maintaining health, as well as on the prevention and treatment of diseases in older adults.

Technostress among medical staff and elderly patients

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Introduction: Healthcare staff, compared to other professions, have an increased probability of experiencing the technostress at work. Knowledge about the causes and severity of technostress and the strategies that healthcare deciders use to manage it is limited.

Methodology: Current demographic changes have led to an increase in interest in the development of smart technologies designed to support the current health needs of elderly users, this field being considered of vital importance in the long-term sustainability of national health systems worldwide.

Results: With the development of digital means of communication, the introduction of methods of interaction with patients and the efficiency of communication with them was a focus. Through online software platforms, remote consultations with patients can be carried out, with benefits in particular in the requirements to confirm drug therapy according to some measurable parameters. Their intelligent emergence has led to the emergence of a new concept of personalized intelligent environment, capable of securing technologies through sensor networks or continuous remote monitoring. The accelerated growth of medical digitization causes a stress in the medical staff who must rely on these technologies must rely on these for medical decisions.

Conclusions: The medicine of the future includes the adaptation of all professional categories as well as patients to the rapid development of digitalization. Future generations will be educated from an early age for this adaptation without adding stress, but there will be fewer and fewer professionals who will rely their decisions based only on their own knowledge and instinct.

COST Actions

A COST Action is an interdisciplinary research network that brings researchers and innovators together to investigate a topic of their choice for 4 years. COST Actions are typically made up of researchers from academia, SMEs, public institutions and other relevant organisations or interested parties. Source: https://www.cost.eu/cost-actions/what-are-cost-actions/

By focusing on networking activities, COST Actions help to advance knowledge and strengthen the research and development sector, by creating networking opportunities for researchers to meet and discuss ideas, complex problems can be addressed in a targeted way, across a large geographical area.

We present here, two relevant results.

Report on SHAFE policies, strategies and funding

- ***SHAFE (Smart Healthy Age-Friendly Environments)*** -

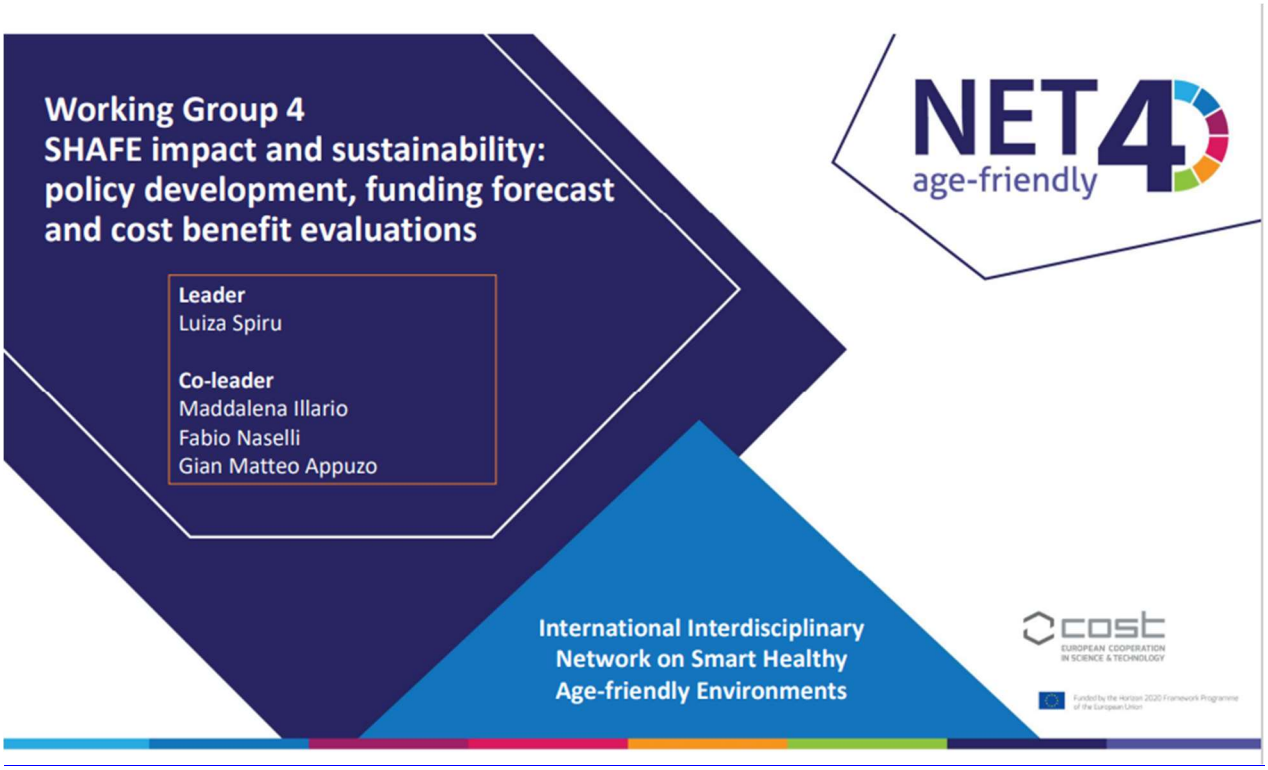
CA19136 - International Interdisciplinary Network on Smart Healthy Age-friendly Environments (NET4AGE-FRIENDLY)

The objective of Working Group 4 of the **COST Action NET4Age-Friendly** is to examine existing policies, advocacy, and funding opportunities and to build up relations with policy makers and funding organisations. Also, to synthesize and improve existing knowledge and models to develop from effective business and evaluation models, as well as to guarantee quality and education, proper dissemination and ensure the future of the Action. The Working Group further aims to enable capacity building to improve interdisciplinary participation, to promote knowledge exchange and to foster a cross-European interdisciplinary research capacity, to improve cooperation and co-creation with cross-sectors stakeholders and to introduce and educate students SHAFE implementation and sustainability (CB01, CB03, CB04, CB05). To enable the achievement of the objectives of Working Group 4, the Leader of the Working Group, the Chair and Vice-Chair, in close cooperation with the Science Communication Coordinator, developed a template to map the current state of SHAFE policies, funding opportunities and networking in the COST member countries of the Action. On invitation, the Working Group lead received contributions from 37 countries, in a total of 85 Action members. The contributions provide an overview of the diversity of SHAFE policies and opportunities in Europe and beyond. These were not edited or revised and are a result of the main areas of expertise and knowledge of the contributors; thus, gaps in areas or content are possible and these shall be further explored in the following works and reports of this WG. But this preliminary mapping is of huge importance to proceed with the WG activities. In the following chapters, an introduction on the need of SHAFE policies is presented, followed by a summary of the main approaches to be pursued for the next period of work. The deliverable finishes with the opportunities of capacity building, networking and funding that will be relevant to undertake within the frame of Working Group 4 and the total COST Action. The total of country contributions is presented in the annex of this deliverable.

SHAFE / NET4Age-Friendly was recognised by the United Nations as a good practice. The United Nations launched an Open call for good practices, success stories and lessons learned by all stakeholders in the implementation of the Sustainable Development Goals and the 2030

Agenda. More than 700 submissions were reviewed by a team of experts from United Nations entities and "SHAFE implemented through NET4Age-Friendly" was one of the recognized good practices from all over the world.

Source: https://zenodo.org/record/5809073#.Y5cr7nZBxD8



Position paper on ethical, legal and social challenges linked to audio- and video-based AAL solutions

CA19121 - Network on Privacy-Aware Audio- and Video-Based Applications for Active and Assisted Living (GoodBrother)

Working Group 1 on Social Responsibility: Ethical, legal, social, data protection and privacy issues launched "Position paper on ethical, legal and social challenges linked to audio- and video-based AAL solutions".

Experts from diverse disciplines are analysing the ethical, legal, data protection and privacy issues associated with the use of cameras and microphones in private spaces, and how to manage multi-party privacy preferences. They also study the differences according to gender and cultural/societal background in the perception of these issues. This WG aims to establish the core requirements that AAL solutions must fulfil to consider ethico-legal issues and to integrate privacy by design and by default. Those requirements will set up the guidelines for the technical WGs (WG2, WG3 and WG4).

The Workgroup goals are:

- Review the current European and international legislation and the ethical issues that underpin this on the use of audio- and video-based monitoring in private environments.

- Study the differences in the perception of privacy depending on the culture, society, gender and age of the users, and analyse the situations and conditions in later life, i.e. occurrence of a fall, which may affect that perception.
- Investigate the potential benefits and barriers of AAL technology adoption for people in need of care.
- Support the development of privacy-aware monitoring systems by a continuous exchange of knowledge with technological participants in the Action.
- Promote the consideration of ethical, legal, privacy and gender matters in the design of AAL solutions. Inform other WGs on the ethico-legal requirements in the design and development of AAL solutions.

In this position paper, they have used Alan Cooper's persona technique to illustrate the utility of audio- and video-based AAL technologies. Therefore, two primary examples of potential audio- and video-based AAL users, Anna and Irakli, serve as reference points for describing salient ethical, legal and social challenges related to use of AAL.

These challenges are presented on three levels: individual, societal, and regulatory. For each challenge, a set of policy recommendations is suggested.

Source: https://zenodo.org/search?page=1&size=20&q=goodbrother

These publications are based upon work from COST Action GoodBrother – Network on Privacy-Aware Audio- and Video- Based Applications for Active and Assisted Living, supported by COST (European Cooperation in Science and Technology). COST (European Cooperation in Science and Technology) is a funding agency for research and innovation networks. Our Actions help connect research initiatives across Europe and enable scientists to grow their ideas by sharing them with their peers. This boosts their research, career and innovation. www.cost.eu