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# Linguistic communication of older people in the light of gerontologopaedic measures

Abstract: Drastic demographic changes worsening in societies of developed countries necessitate the search for systemic solutions for the functioning in the elderly – economic, sociological, medical, and therapeutic solutions. In addition to the standard diagnosis of somatic lesions, it is necessary to take into account the psychological, cognitive and language disorders in patients. For years, in fact it escalates pathological aging phenomenon caused by the rising neurological incidents and neurodegenerative diseases. The authors of this study are recognising the growing problem and the reasons for this they see in the following factors: 1) low public awareness of psychophysical capabilities of the elderly results in numerous therapeutic negligence 2) the lack of standards for prophylactic, diagnostic, and therapeutic proceedings and, consequently, the minimal competence that causes aversion to helping the sick seniors.
Keywords: speech therapy, gerontology, therapy, elderly, neurodegeneration

## Komunikacja językowa osób starszych w świetle działań gerontologopedycznych

Streszczenie: Drastyczne zmiany demograficzne nasilające się w społeczeństwach krajów wysoko rozwiniętych wymuszają poszukiwania systemowych rozwiązań w zakresie funkcjonowania osób w wieku senioralnym – rozwiązań ekonomicznych, socjologicznych, medycznych, a także terapeutycznych. Obok standardowego diagnozowania somatycznych zmian chorobowych, konieczne staje się uwzględnienie psychicznych, poznawczych oraz językowych deficytów pacjentów. Od lat bowiem eskaluje zjawisko patologicznej starości spowodowanej narastającymi incydentami neurologicznymi oraz chorobami neurodegeneracyjnymi. Autorki prezentowanych badań, dostrzegając nasilający się problem, przyczyn takiego stanu rzeczy upatrują w następujących czynnikach: 1) niska świadomość społeczna dotycząca psychofizycznych możliwości osób w podeszłym wieku skutkuje nagminnymi zaniedbaniami terapeutycznymi; 2) brak standardów w postępowaniu profilaktycznym, diagnostycznym oraz terapeutycznym i wynikająca z tego zbyt niska kompetencja samych terapeutów powoduje niechęć do podejmowania działań wobec chorych seniorów.
Słowa kluczowe: logopedia, gerontologia, terapia, osoby starsze, neurodegeneracja

Demographic studies are sounding the alarm about the changing population situation worldwide. Due to a shift in the average age of parenthood, as well as a strong tendency for families to have fewer children, the birth rate is being drastically reduced. At the same time, improvements in the quality of medical care and increased access to it are closely related to increased life expectancy (by 5 years since the 1990s) (Wdowiak et al., 2009, pp. 451–462). For example, the average life expectancy of a woman in Japan is now 85.5 years, in Europe this statistic does not differ much – women live the longest in France and Spain (84.4 years), followed by Switzerland (82.2 years) (Dmochowska, 2008, pp. 536–539). As a result, demographers forecast that in the nearest future there will be around two billion people over 60 in the world, which will account for almost 20 per cent of general population (Szarota, 2004, p. 5). The situation in Poland is similar to global trends: The Central Statistical Office estimates that there are currently 6 million people over 65 living in Poland. However, the number of seniors will increase rapidly in the nearest future: forecasts say that in 2030 – it will already be over 8.5 million, and in 2050 – even 11 million (Dmochowska, 2014, p. 211). The consequence of these processes will be a change in the age structure of the population, which we are starting to observe now.

The literature on the subject considers old age to be the life of people over 65 (Szarota, 2004, p. 5). Old age is a natural, universal, common phenomenon that takes various forms: from the serene "golden autumn" of life to the anguish of disease and suffering. Changes occurring then in the human body can be physiological (physiological old age is a natural process) (Siudak, 2015, pp. 551–560) or pathological (Siudak, 2018, pp. 43–52) , when the ageing process is accompanied by chronic and multifactorial senile disability syndromes, called by Anglo-Saxon gerontologists "*the giants of geriatrics*" (Bień, Przydatek, 2000, pp. 45–46).
The main diseases of senior age can be divided into:

- somatic (hypertension, ischaemic heart disease, chronic heart failure, diabetes, incontinence, etc.);
- mental (dementia, depression, delirium, neurodegenerative diseases, etc.) (Kostka, Koziarska-Rościszewska, 2009).

The occurrence of medical conditions often disrupts or prevents independent functioning, which affects not only the patient's well-being and life satisfaction, but it has also negative impact on economic, family and organisational issues (Czapiński, Panek, 2011; Timoszyk-Tomczak, Bugajska, 2013, pp. 83–95). A new perspective of these phenomena is provided by the period since the outbreak of the Covid-19 pandemic, especially the new phenomena accompanying the pandemic, home isolation, social distance, which generated in many seniors the behavior of avoidance of wider contact, presented also in the case of subsequent collective diseases, such as Legionella (Brook, Clarc, 2020; Ezeokonkwo et al., 2021; Parfieniuk-Kowerda, 2023). Among Polish seniors, as many as 700,000 require permanent, round-the-clock care, and 1.5 million (currently 60% of all

seniors in Poland) need assistance and some kind of care. Researchers speculate that "if this trend continues, by 2020 – 3.6 million people will be partially disable" (Wdowiak, Ćwikła, 2009, p. 453). Such a situation requires systemic changes, which should involve medical, social, economic as well as therapeutic measures.

## *Emploi*[1] gerontologopeda

Due to the developing neurosciences and the specialisations of linguistics, the scope of a speech therapist's responsibilities has increased significantly in the last two decades. This is because we increasingly understand language processes and their neurological and organic determinants. Within speech therapy, further specialisations are being created as a scientific and educational response to the therapeutic needs of patients: surdologopaedics, oligophrenologopaedics, balbutologopaedics, artistic speech therapy and, more recently, gerontologopaedics (Milewski, Kaczorowska-Bray, 2014, pp. 13–26; Pluta-Wojciechowska, 2014, pp. 9–13) .

Gerontologopaedics is a response to the increased therapeutic demand among the oldest group in society, but also to an increase in public awareness of medical and rehabilitation interventions in seniors. Better and better (although still not good enough) results are being observed in rebuilding language skills in post-stroke patients suffering from aphasia (Siudak, 2018, pp. 953–984) and dysarthria or in oncology patients after laryngectomy (removal of the larynx). The methodology of speech therapy in the course of neurodegenerative diseases such as dementia or Alzheimer's disease is also developing more and more rapidly. Clinical observations show that in adult patients, in addition to speech disorders, mental functions that determine speech almost always deteriorate to a greater or lesser extent (Domagała, 2007; Siudak, 2010, pp. 169–194; Tłokiński, 1990; Vetulani, 2010; 2011). Therefore, the work of a modern speech therapist can no longer be limited to improving pronunciation, but should be based on whole-brain stimulation as the basis of a well-programmed therapy (Pawłowska-Jaroń, 2019). However, it seems that despite this knowledge, there is still a lack of care for many groups of patients who certainly require this help. Hence, as an interdisciplinary science, speech therapy should be increasingly involved in research and enter therapeutic areas that it has not yet explored.

[1] *emploi* – from French: 1. 'occupation, position, post'., 2. 'ability, aptitude', 3. 'responsibilities' (https://sjp.pwn.pl/slowniki/emploi.html)

## Communication disorders in older people

Bożydar Kaczmarek defines communicative competence as any use of linguistic skills for practical purposes adapted to the context, which he divides into linguistic, para-linguistic and extra-linguistic skills (Kaczmarek, 2005). This means that effective communication is based not only on knowledge of the linguistic code (passive, primary – responsible for receiving information and active, secondary – necessary for conveying a message) within the phonetic, inflectional and syntactic structures of the natural mother tongue, but is also realised as prosodic and paraprosodic features. The function of prosody is to modify the meaning of the message, i.e. the intonation, accent and rhythm of the utterance, as well as the tone of voice and its tone, which provide information about the speaker's true intention. The third of the codes of communication are extra-linguistic elements (non-verbal) (Antas, 2001), which include facial, gestural, olfactory, tactile, proxemic, contextual, temporal etc. sub-codes (Kaczmarek, 2002, pp. 19–22; 2005, pp. 12–18).

In light of these assumptions, the authors have compiled a list of the most common medical conditions in adults and older people that require speech therapy intervention due to the risk of speech disorders. The taxonomic delimitation of the groups is related to the causes of the disease and not to the type of speech therapy interventions, which must be appropriately adjusted to the patient's abilities. In addition, it should be borne in mind that therapeutic procedures and strategies will change during the course of therapy and therefore they need to be constantly reviewed.

Neurological disorders in older people can occur in:

1. Speech disorders as a result of neurological incidents (Pąchalska, 2012):
   - aphasia – damage to the structures responsible for speech in the dominant hemisphere (Panasiuk, 2012; 2013);
   - pragnosis – destruction of areas in the none dominant hemisphere (Panasiuk, 2008, pp. 279–296);
   - dysarthria – damage to subcortical structures (Tarkowski, 1999; Tłokiński, 2005, pp. 907–929).
2. Speech disorders in neurodegenerative diseases :
   - Alzheimer's disease – a cortical dementia caused by pathological changes in the brain in the form of amyloid deposits (so-called senile plaques) that lead to neurodegeneration of neurons (Domagała, 2013, pp. 153–160);
   - Parkinson's disease and parkinsonism – pathological death of black matter nerve cells resulting in impaired dopamine distribution, which leads to increased motor difficulties, resting tremor, stiffness, etc. (Lewicka, 2006);
   - dementia – acquired organic mental disorder with loss of intellectual abil-

ity, memory, behaviour, personality, attention, language, abstract thinking and etc. (Domagała, 2013, pp. 153–160);
- dementia with Lewy bodies – the second cause of dementia in the elderly after Alzheimer's disease (20% of dementia); characterised by the co-occurrence of cognitive impairment and symptoms of parkinsonism (Sławek, 2008, pp. 8–10);
- frontotemporal dementia (Pick's disease) – a rare form of dementia accompanied by aphasia, apraxia, anomia, memory and personality disorders (Wysokiński, Gruszczyński, 2008, pp. 365–376 );
- primary progressive aphasia (Mesulam syndrome) – a form of frontotemporal dementia giving selective but progressive language impairment, which is also accompanied in later stages by dementia (Jodzio, 1999).

3. Speech disorders in genetically determined diseases:
   - multiple sclerosis (MS) – an autoimmune disorder in the form of primary damage to the myelin in the central nervous system, takes the form of multifocal and multi-temporal disease episodes with a non-specific form (in addition to motor problems, there are problems with memory, concentration, visual problems, etc.) (Szepietowska, 2006);
   - amyotrophic lateral sclerosis (SLA) – the most common progressive motor neuron disease involving the death of upper (in the brain) and lower (in the brainstem and spinal cord) motor neurons (Adamek, Tomik, 2005);
   - huntington's chorea – a degenerative process genetically determined (autosomal dominant inheritance) manifested by uncontrolled movements (choreic movements) and dementia (Marszałek, 2006).
4. In non-speakers as a result:
   - laryngectomy – ENT surgery to remove the larynx in cancer patients (Sinkiewicz, Mackiewicz-Nartowicz, 2014, pp. 227–239);
   - locked-in syndrome – whole-body muscle paralysis resulting from a brainstem stroke; despite retained consciousness, the patient is unable to make movements (the exception being vertical eye movements) or communicate by speech (Panasiuk, 2014, pp. 95–114);
   - coma – prolonged state of unconsciousness caused by trauma, metabolic disorder, infection, hypoxia, poisoning, emotional disturbance, etc. (Mirończuk, Kwiatkowska, 2013).

In all of the aforementioned disease groups, the therapeutic procedure is to recover the communicative skills that the patient previously possessed. The specificity of the strategy will, of course, depend on the type of disorder: in some disorders there are only impairments in speech production skills, while others require the recovery of individual components of language functions competence. However, communication in older people is not only the language – it is a mosaic of components, of which medical, psychological, emotional, as well as meteorol-

ogical, diurnal, etc. factors play a key role (Pawłowska-Jaroń, 2019, Siudak, 2019a; 2019b). To ensure that the therapist does not get lost in the maze of conditions (get confused in a complexity of circumstances), they should have a broad and interdisciplinary knowledge of gerontotherapy. The scope of competences of a speech therapist (neurologist, gerontologist) working with older people should, therefore, include at least a basic knowledge of linguistics, medicine, physiotherapy, first aid, and even ethics and law.

The following scope of areas of knowledge that is useful (and in fact necessary) when working with sick seniors is the result of the authors' clinical and scientific experience. Due to the limitations of the size of the article it is not possible to include a detailed description, however, the authors hope that the following list will help at least partially organise the gerontotherapeutic experience of current and future professionals. A competent therapist should therefore possess the following knowledge:

1. Linguistic area – the scope of grammar knowledge of the language system that makes it possible to recover the language in a situation of its disintegration:
   - language and communication programming – using the minimum number of the lexical, grammatical and thematic components to build a maximum number of speech messages;
   - re-education of literacy – the use of writing which properties enable to recover linguistic competence by repeating the structures;
   - alternative methods of communication as an essential aspect of effective communication in many progressive diseases and as a temporary phase of therapy in people after neurological incidents;
   - the determinants/specificities of seniors' verbal communication processes, i.e:
     a) communication in older people by maintaining language contact, which is the same as establishing and maintaining social contacts;
     b) communication through conversation, not limited by time frame;
     c) slower speech rate;
     d) keeping in touch with people of a similar age and language experience, as a social support;
     e) interests and communication needs, most often related to the past and one's own life experiences;
     f) mannerism and behaviour, e.g. expecting other family members/listeners to only focus attention on them, to agree with their views;
     g) seniors' perception of information – often lack of critical thinking towards the information they receive, susceptibility to deception;
     h) perception of others' statements – the interlocutor should speak slowly, focus his/her attention fully on the older person; in any other case, a negative perception of the interlocutor may be expected (Milewski et al., pp. 2016, 171–172).

2. The medical and paramedical area – the area of disease determinants showing the pathomechanism as well as co-morbidities affecting the patient's functioning:
   - basic knowledge of anatomy, physiology and neurology as they relate to psychosomatic changes in ageing;
   - basic knowledge of geriatrics with elements of geriatric cardiology;
   - first aid for the elderly;
   - basics of pharmacology for the elderly;
   - alternative medicine (herbal medicine, diets);
   - basics of nursing the sick;
   - palliative care.
3. Physiotherapy area – basic rehabilitation skills to work with patients with movement disorders:
   - basic knowledge of physiotherapy and physical rehabilitation;
   - improving motor functions in old age;
   - diagnosis and therapy of dysphagia (swallowing disorders).
4. Ethical-legal area – social intervention area for the improvement of the situation of the sick person:
   - the legal situation of the elderly (wills, incapacitation, benefits, etc.);
   - ethical issues of working with older people.

All the above mentioned knowledge and skills should be supported by knowledge of ageing variables – modifiable (e.g. diet, physical and mental activity) and non-modifiable factors (e.g. age, gender), et al. (Jopkiewicz, Lelonek, 2014; Kaczmarczyk et al., 2013; Pniewska et al., 2011).

## Conclusions

According to the authors, such a programme would equip gerontotherapists (gerontologists) with the competences and skills necessary to work with adults suffering from a variety of conditions. Professionals would probably be a tremendous support to sick patients in all senior services. It should be borne in mind that, as a result of ageing of the population, it will be inevitable that policies towards the oldest social stratum will have to change and that investment will have to be made in professionals familiar with the specifics of working with older people. It is inevitable that there will be a change in the labour market, but such therapists are certainly in short supply at present. A systemic solution would be to employ them both in social institutions (Social Care Homes, Rest Homes, Day Care Centres, Hospices) and in medical institutions (Prof. Eleonora Reicher

National Institute of Geriatrics, Rheumatology and Rehabilitation, neurological wards in hospitals, rehabilitation wards in hospitals, Rehabilitation Centres, Geriatric Clinics – Geriatric Departments, Internal Diseases and Geriatrics Clinics, Geriatric-Gerontological Clinics, Sanatoriums). This would undoubtedly have a positive impact on the living, health, professional and social situation of the third and fourth age groups, which is something that society as a whole should care about.

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