

MUSic, performing and creative Arts professions involved in healthcare:
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Experiences and reflection
about therapeutic effectiveness

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1. A report about therapeutic effectiveness of music therapy in Poland

However music therapy has been used in treating the sick since the centuries, it was officially recognised as a therapeutic measure after the Second World War. Its function has changed over many years, music has always been an essential part of human lives (Dewhurst-Maddock, 2001; Dobrzyńska, Cesarz, 2006; Pospiech, 2009). As a discipline joining clinical practice, knowledge, research and artistic activity music therapy has a very specific character. For music therapy this is a time of paradox. On the downside, music therapy for people with any disorders is frequently understood as recreational activity only. Lack of trust towards this form of therapy is present in professional medical environment. This intervention is not very popular in Polish health system and it is not so intensively developed in hospitals as in the other European countries. On the positive side, the rapid development of music therapy has become possible as a result of the medical profession's recognition of the emotional sphere as a possible cause for the occurrence of diseases. However, scientific reflection of the last few decades has led to creating coherent definitions and theories as foundations for evidence-based practice. The steadily increasing numbers of well-educated music therapists. They have adequate education and competencies. The newest research results suggest that professionally performed music therapy has a real potential in terms of improving functioning of patients with mental (Konieczna-Nowak, 2013), physical and the other problems in different areas. It can be used in the hospital and out-patient care, or in sanatoria. Nowadays, it plays a significant role in medical care and rehabilitation, as well as in preventive psychology (Janiszewski, 1998; Matera 2002; Gąsienica-Szostak, 2008; Karolak, Kaczorowska, 2008). Its multidimensional nature facilitates its application in psychiatry, cardiology, geriatrics, surgical contexts, obstetrics and palliative care. Music therapy is primarily employed as a method of supporting a comprehensive medical effect (Śliwka, 2006). Faced with the trend toward shorter length of stay in inpatient units, music therapists and patients in need of care face dramatic changes in treatment. Development of new and improved nonpharmacological agents has opened novel pathways for treating symptoms and syndromes. These advances have also begun to

demonstrate how nonpharmacological interventions such as psychotherapy and the creative arts including music therapy can impact patient function.

The steadily decreasing length of inpatient hospital stays requires rethinking and redeveloping, as well as retraining, in order for music therapists to work within a new conceptual model. Rethinking the application of music therapy has required the development of methodology that is observable and measurable, and can be applied to many different treatment settings (public health service, private practice). Decreased financial resources contribute to the pressure to demonstrate the efficacy of music therapy in short-term treatment.

But only few articles discuss the therapeutic aspect of music therapy and present scientific studies confirming a broad spectrum of its application in health care in Poland. While up until the mid-1980s little empirical research had been done to support the efficacy of the music therapy treatment. Since then, more research has focused on determining both the effectiveness and the underlying physiological mechanisms leading to symptom improvement with using music. Scientific research has confirmed its influence on patients' psychological and physical condition. Devotees of music therapy claim that music could fulfil a role of a universal medication, one that is inexpensive and causes no side effects. Music therapy interventions include singing, playing both composed and improvised music, creating song lyrics, melodies, harmonies and specific relaxation skills.

Some of the patients in Poland has the music therapy in short-term or long-term treatment. Much of this work is done using a psychoeducational model. For short-term treatment, music therapy is addressed by designing a series of single sessions that focuses on meaningful outcomes in a single session. This is discussed in a national music therapy conference.

This report presents scientifically based perspective on music therapy, grounding practice in theoretical framework, briefly presenting effectiveness current research, especially results of randomized controlled trials in Poland. Awareness of the real potential of music therapy can contribute to better integrated, holistic care for patients.

Some study showed a significant effect on many negative symptoms of psychopathologies, particularly in developmental and behavioral disorders. The most common uses of music therapy are to 1) address anxiety 2) mental disorders 3) improve the communication skills 4) relax the body and mind 5) diagnose anomalies in the field of a sense of identity 6) cardiac rehabilitation 7) depression 8) neurological and mental disorders in elderly 9) Maternity nursing and neonatology 10) dental procedures 11) children disorders.

The following sections will discuss the uses and effectiveness of music therapy in the treatment of specific pathologies:

Anxiety

Music therapy was especially effective in improving focus and attention, and in decreasing negative symptoms like anxiety and isolation. A study in 2008 by Krzysztof Stachyra investigated the effects of Guided Imagery Through Music on state and trait anxiety levels using music and relaxation techniques to train students of pedagogy to manage stress and improve anxiety levels. The results demonstrated that the experimental group exposed to direct/indirect music therapy and relaxation techniques experienced a decrease in perceived situational stress (measured as state anxiety and a marked reduction in perceived stress and anxiety following training. This was true both at posttest and three-month follow-up. Overall, the results indicate that GIM (Stachyra, 2012, 2012a, 2012c) and the others tools (Kronenberger, 2004; Bednarski, 2005) may be of some benefit to persons dealing with chronic stress and anxiety. The purpose of a study by Bednarski (2005) was to determine whether relaxation and music therapy were effective in reducing stress.

Problem-solving with communication

Some studies suggests the use of music therapy in a problem-solving with communication approach to group work that have proved to be most effective in short-term treatment in a study by Elżbieta Galińska and Elżbieta Aranowska (2004). Communication was studied using musical instrument in three diagnostic groups and in the group of students. In this research, a new statistical proposal – the λ coefficient of expressiveness of the traits of the patient, introduced by E. Aranowska was empirically verified. This knowledge serves as a foundation for the music therapy program at hospitals in Poland.

A sense of identity

The study aimed at verification of the selection accuracy of the music material to the Musical Portrait Method and The Imaging of a Person Technique (devised by Galińska, by means of the author's own measurement instrument, namely, the Musical Identity Test) was conducted by Galińska (2008). The Musical Identity Test was subsequently applied in its pilot form and turned out to accurately diagnose anomalies in the field of a sense of identity (Galińska, 1994, 2001, 2003a, 2003b).

Mood disorders and depression

Various forms of psychotherapy have been attempted with individuals with experience depression, anger, and other psychological symptoms, including verbal therapies such as music therapy and art therapy. More recent research suggests that music can increase a patient's motivation and positive emotions. Music has been shown to affect depressed patients and seems to work for mood disorder. One reason for the effectiveness of music therapy is the capacity of music to affect emotions and social interactions. Research by Halina Laskowska (2000) found music therapy is associated with a decrease in depression, improved mood, and a reduction in state anxiety. Both descriptive and experimental studies have documented effects of music on quality of life, involvement with the environment, expression of feelings, awareness and responsiveness, positive associations, and socialization. Additionally, Laskowska (2000) found that music therapy had a positive effect on social and behavioral outcomes and showed some encouraging trends with respect to mood.

Cardiac rehabilitation

Emotional foundations of music as a non-pharmacological tool is used in modern medicine in cardiac rehabilitation field (Janiszewski1987; Kierył, Skarżyńska, 1993; Kubica, Pospiech, 2009). Recent studies have examined the effect of application music therapy during cardiac surgery. Current research also suggests that when music therapy is used in conjunction with traditional therapy it improves success rates significantly. Therefore, it is hypothesized that music therapy helps to recover faster and with more success by increasing the patient's positive emotions and motivation, allowing him or her to be more successful and feel more driven to participate in traditional therapies. Professor Jacek Kubica and

professor Wojciech Pospiech have devised an original program for cardiac patients and have conduct experiments with the use of music (Kubica, Pospiech, 2009).

Maternity nursing and neonatology

Music is a complementary and supportive element of the process of integrated treatment in maternity nursing and in neonatology (Talar, 2009; Stachyra, 2012). In neonatal intensive care unit setting music is as a component of the treatment of premature infants, because musical stimuli regulate the body metabolism, affect the frequency and regularity of breathing, changes in pulse, blood pressure, as well as reduce the threshold for pain and muscle tension. In child-mother relationships, music creates the sense of security, and allows for the nonverbal communication. The relaxation music has a significant influence in the nursing care of the prematurely born infants and is similar to the philosophy of holistic nursing care. The music therapy treatment may improve the effective treatment of prematurely born infants and help them return to health. This therapy may bring benefits for the physiological function of the body by reducing heart rate and oxygen saturation level.

In Barbara Zych and colleagues study (2011), the impact of music therapy on the general condition of prematurely born infants was observed. The research was carried out in the study group covering 10 prematurely born infants between 30 and 35 weeks of gestation, with a stable circulatory and respiratory system. The author's observation form and choice of classical music (relaxing) were proposed. The study group of infants was divided into two groups; every day the first group listened to music using headphones; the second one did not. In both groups, the pulse rate and the oxygen saturation were observed. The observation was conducted for seven days and the time duration of the experiment depended on the length of child's hospitalisation. The research material was verified and subjected to statistical analysis. The relaxation music was played for every infant from the research group, and it had an impact on the decrease of the pulse rate (1 week: $p=0,015$; 2 weeks: $p=0,007$) and oxygen saturation (1 week: $p=0,012$; 2 weeks: $p=0,020$) within normal limits compared with the control group.

Oncology

Music therapy is a valuable adjunct in the oncology setting. Research shows that listening to and composing music reduces the seriousness syndrome among patients with cancer. Other reports confirm the reduction of side effects of cancer treatment (Bohen, 2006). Appropriate music for reducing stress associated with cancer diagnosis is Baroque music (Pospiech et al., 2009). A study by Marnet (2007) examined the impact of music therapy when combined with traditional therapy in a rehabilitation program with a cancer patients and palliative care. Music interventions improve psychological outcomes among female breast cancer patients after radical mastectomy (Ochwanowska, 2005). Guided imagery has been used in a variety of clinical areas, and empirical studies have supported its wide-ranging applications. Imagery has been extensively used as a therapy in oncology, particularly in symptom and stress management and more actively as a healing imagery focusing on the cancer.

Psychiatric disorders

Schizophrenia

The use of music therapy in treating mental and neurological disorders is on the rise (Janicki, 1983; Kopalińskai, 2006; Wilczek-Różycka, 2007). Music therapy has showed effectiveness in treating symptoms of many disorders, including schizophrenia (Galińska, 2001). Music is a time-based link to reality. Music therapy can be a particularly useful when working with patients with schizophrenia due to the nonverbal, non-threatening nature of the medium (Galińska, 1991, 1995a, 2001). They obtain many benefits from listening to music, including emotional, social, and daily life benefits. Music also offers psychiatric patients relatable messages that allow them to take comfort in knowing that others feel the same way they do. It can also serve as a creative outlet to release or control emotions and find ways of coping with difficult situations. Music can improve an schizophrenic's mood by reducing stress and lowering anxiety levels, which can help counteract or prevent depression (Wilczek-Różycka, 2007). While it is true that music have a physiological impact without conscious listening, it is not possible to purposefully respond to music without listening over time. For schizophrenia patients, this listening over time is a means of reconnecting with the external world. Music and rhythmic experiences can help the schizophrenic establish contact with reality and respond appropriately. Research shows

that listening to and composing music reduces the seriousness syndrome among patients with cancer. Other reports confirm the reduction of side effects of cancer treatment. Some research suggests that music-based interventions can be effective in reducing anxiety, pain perception and sedative intake. Music that is selected by trained personnel is preferred because specific guidelines for music selection should be followed in order to maximize its positive effect on patients. Galińska (1990, 2001) concludes that the average therapeutic effect of music in medical treatment helps in forming their identity. Music can provide a sense of independent life and individuality, which in turn contributes to an cancer patients's self-discovery and sense of identity. In one study of chronic psychiatric patients Galińska (2001) suggested that the playing an instrument as a background stimulus reduced or increased disruptive behaviors. This a critical element of the music therapy depends on therapeutic awareness and sensitivity of therapists.

Borecki et al. (2005), conducted a study on the use of the receptive music therapy with schizophrenia and anxiety. The results of the research allow to draw conclusions that most patients had moderate attitude to classical music, while very positive to the popular. Music calmed patients, but loud stimulated. Music therapy stimulated the emotions, the imagination and creativity of the patients, allow to establish positive contact between the patients and the hospital staff, contribute to the integration of the group, and an increase in the level of self-esteem. Patients also recognized the aesthetic world around them.

Laskowska (2000) also believes that music therapy classes have a positive effect on patients with schizophrenia . It is expressed greater social inclusion and increased confidence. The sick will also be able to forget about the disease.

Neurotic disorders

During the last decade there has been a collection of writings related to the application in the treatment of people with neurotic disorders of music therapy, often from symposia and the development of research strategies suitable to clinical application (Galińska, 1995b). Music is used in terms of individual and group psychotherapy for the encouragement of awakening the emotions of the patient, and in helping them cope with unconscious intrapsychic conflicts interpersonal conflicts. In the treatment of neuroses are mainly used a group music therapy, which is

characterized by a common active listening and playing music (Laskowska, 2000). In a group of depressed patients who have few words to describe response, music therapy can begin to open the door to the development of a descriptive vocabulary. Research Żechlińska et al. (2008), showed that the majority of patients had improvement in general health and reduce the level of situational anxiety.

Neurological and mental disorders in elderly

The psychosocial rehabilitation of older persons is one of the main problems in treatment policy in Poland (Moyne-Larpin, Korcuć, 2000). Until recently, music therapy techniques had rarely been used with neurological and mental disorders in elderly. A lot of study in the world suggested an effectiveness and valuable part of a combined health policy for the elderly of many disorders, including Parkinson's disease and Alzheimer's disease and other types of dementia (Paszkiwicz-Mes, 2013). This has also meant an increase in studies using creative arts therapies and overviews of music therapy as a treatment approach to those disorders have already been written in Poland, too. Effectiveness of chosen musictherapeutic procedures for older people with dementia in long term care facilities have found Pospiech (2009). Music therapy is a form of support for Parkinson's disease (Zawadka, Krajewski, 2009).

Dental procedures

Music therapy can be very helpful and effective when performing dental procedures in patients with panic disorder (Kucharski, 2005) both paediatric and adult patients.

Children disorders

Lewandowska (2001) emphasizes the importance of the creative arts in general to child development as they involve the child's natural curiosity. Studies have shown that much of modern music therapy can be a particularly useful when working with children and the diversity and richness of this work is reflected in the literature (Stachyra, 2001; Lewandowska, 2001; Berezowska, 2005, Krauze-Sikora, Frackowiak, 2004; Głowacka, 2006). When children with autism use of music therapy, they has demonstrated improvements of socially acceptable behaviors

(attention, symbolic communication and sharing of positive affect) (Żurawska-Seta, 2005). Music can improve an children's mood by reducing stress and lowering anxiety levels, which can help counteract or prevent depression during oncological procedures (Ruda, Kazanowska, 2011).

Conclusion

There is a broad literature covering the application of music therapy as reported in the medical press and a growing resource of valid clinical research material from which substantive conclusions should be drawn.

Although there is in Poland a broad and a developing clinical literature covering the application of music therapy intervention techniques as reported in the medical press and a growing resource of valid clinical research material from which substantive conclusions should be drawn, there has been little research into the effectiveness of this work and such research as does exist often uses methodologies that are inappropriate for such an early stage of clinical development. Current work in music therapy field is in the administration of a controlled study. The researchers argue a broad spectrum of research designs that will satisfy differing needs. Some of them are tentative. Nobody knows which techniques the clinical research should adopt: case study or single-case designs or group designs for evaluating new clinical developments. All know from experience that music therapy brings benefits to sufferers and the challenge is to convert this knowledge into evidential studies. The success of such a venture may have a profound effect upon the political acceptance of music therapy as a non-pharmacological treatment different disorders and should the results be of significance. More research is needed to further develop these strategies and establish their best use, music interventions hold great promise for improving the quality of life and well-being of suffering patients and sometime their family caregivers because people who are suffering do not suffer alone.

References

Bednarski J.M., Kulski M. (2005). Utwór muzyczny *Patiens meus* – komponent PAR (Programu Audioprofilowania Relaksacyjnego) RELAKSIS w niwelowaniu reakcji stresowej (*Patiens meus music work* – a component of the RELAKSIS Audioprofile Relaxation Programme (ARP) in reducing the stress reaction). *Nowa stomatologia*, 1: 37-40.

- Berezowska D. (2005). Muzykoterapia dziecięca - możliwości i realia zastosowania w pedagogice i medycynie. W: Nowe trendy w edukacji muzycznej. Lublin : UMCS.
- Bohen D. (2006). Rola muzykoterapii w opiece nad pacjentami w zaawansowanym okresie choroby nowotworowej. *Onkologia Polska* 2006, 9(4): 133-136.
- Borecki M, Ochwanowska A, Ochwanowski P. (2005). Badania nad wykorzystaniem muzykoterapii receptywnej w leczeniu psychiatrycznym. *AUMCS Lublin, LX, Suppl. XVI, 38: 171-173.*
- Dewhurst-Maddock I. (2001). *Terapia dźwiękiem: jak osiągnąć zdrowie poprzez muzykę i śpiew.* Białystok : Studio Astropsychologii.
- Dobrzyńska E., Ceszczak H., Rymaszewska J., Kiejna A. (2006). Muzykoterapia. *Psychiatria w Praktyce Ogólnolekarskiej*, 2 (6): 84-88.
- Galińska, E. (1991). Muzykoterapia w kompleksowym leczeniu schizofrenii w warunkach oddziału dziennego. *Psychoterapia*, nr 3(78), s. 39-50.
- Galińska E. (1994). Ocena niektórych aspektów efektywności metody portretu muzycznego na tle analogicznych metod psychoterapii nerwic. *Psychoterapia*, 4 s.49-60.
- Galińska E. (1995a). Musical thinking in the process of music therapy for neurotics and psychotics. [W:] M. Manturzevska, K. Miklaszewski, A. Białkowski (red.), *Psychology of music today.*
- Galińska, E. (1995b). Analiza mechanizmów poznawczych muzykoterapii nerwic. *Psychoterapia*, 2, 27-60.
- Galińska E. (2001). Doświadczenia urazowe a metoda "portretu muzycznego" (PM). *Albo albo*, 4 s. 46-60.
- Galińska, E. (2001). Możliwości i ograniczenia muzykoterapii i psychodramy w leczeniu osób ze schizofrenią. *Psychoterapia*, nr 3 (118), s. 5-17.
- Galińska E. (2001). Portret muzyczny jako metoda harmonizacji struktury "ja" pacjentów z zaburzeniami nerwicowymi. *Probl. Porad. Psychol.*, 1 s. 55-67.
- Galińska, E. (2003a). Doświadczenia urazowe i ich terapia metodą „Portretu Muzycznego” (PM). *Psychoterapia*, 1, 19-40.
- Galińska, E. (2003b). Muzykoterapia zaburzonego poczucia tożsamości. „Kodowanie muzyczne” – instalacja ego. *Psychoterapia*, 3, 61-72.

- Galińska E., Aranowska E. (2004). Metodologiczne podstawy analizy stylu komunikacji muzycznej (METHODOLOGICAL BASIS OF MUSICAL COMMUNICATION STYLE). Przegląd Psychologiczny, 4 (47), s. 327-344.
- Galińska, E. (2008). Muzyka jako nośnik cech człowieka– Muzyczny Test Tożsamości (MTT)(MUSIC AS A CARRIER OF HUMAN TRAITS: MUSICAL IDENTITY TEST (MIT). PRZEGLĄD PSYCHOLOGICZNY, TOM 51, Nr 4, 423 441.
- Gąsienica-Szostak A. (2003). Muzykoterapia w rehabilitacji i profilaktyce. Warszawa : Wydaw. Lekarskie PZWL.
- Głowacka E. (2006). Artediagnoza: psychologiczna specyfika twórczości plastycznej dzieci neurotycznych. Kraków : Wydawnictwo Uniwersytetu Jagiellońskiego.
- Janicki A. Muzykoterapia w leczeniu psychiatrycznym. (1983). Zeszyty Naukowe PWSM, Wrocław.
- Janiszewski M. (1998). Muzyka w profilaktyce, leczeniu i rehabilitacji. Łódź: Akademia Muzyczna.
- Janiszewski M. (1987). Zastosowanie wybranych technik muzykoterapii aktywnej jako formy kinezyterapii u pacjentów z nadciśnieniem pierwotnym. Łódź : Wydaw. UŁ.
- Karolak W., Kaczorowska B. (2008). Arteterapia w medycynie i edukacji, Łódź: Wyższa Szkoła Humanistyczno-Ekonomiczna.
- Kierył M., Skarżyńska M. (1993). Literatura i muzyka dla osób ze schorzeniami serca i układu krążenia: poradnik. Toruń Warszawa : Wojewódzka Biblioteka Publiczna i Książnica Miejska im. Mikołaja Kopernika. Ośrodek Informacyjno-Metodyczny Czytelnictwa Chorych i Niepełnosprawnych.
- Krauze-Sikorska H., Frąckowiak M. (2004). Improwizacje muzyczno-ruchowe w terapii i wspomaganie rozwoju dzieci z cechami lęklivosti społecznej. W: Wczesna diagnoza i terapia dzieci z utrudnieniami w rozwoju: interdyscyplinarne problemy. Wrocław : Dolnośląska Szkoła Wyższa Edukacji Towarzystwa Wiedzy Powszechnej.
- Konieczna-Nowak L. (2013). Możliwości stosowania muzykoterapii w leczeniu osób z zaburzeniami psychicznymi – praktyka i stan badań(MUSIC THERAPY APPLICATIONS FOR INDIVIDUALS WITH MENTAL DISORDERS –CLINICAL PRACTICE AND RESEARCH. Psychiatria i Psychoterapia, (9), 2, 17-28.

- Kopińska E. (2006). Arteterapia w rehabilitacji osób chorych psychicznie. *Niepełnosprawność i Rehabilitacja*, 4, s. 36-47.
- Kronenberger M. (2004). *Muzykoterapia : podstawy teoretyczne do zastosowania muzykoterapii w profilaktyce stresu*. Szczecin: "Mediatour".
- Kucharski Z. (2005). Zastosowanie terapii akustyczno-multisensorycznej Musica Medica w zwalczaniu lęku w gabinecie stomatologicznych. *Nowa Stomatologia*, 2: 75-80.
- Laskowska H. (2000). Profilaktyka zdrowia psychicznego ludzi młodych. *AUMCS Lublin, LX, Suppl. VII*, 27: 132-135.
- Laskowska H., Rokitiańska M. (2005). Polska - wychowawcza i profilaktyczna rola muzyki. W: *Praca opiekuńczo-wychowawcza w szkole i innych instytucjach oświatowych*. Lublin: UMCS.
- Lewandowska K. (2001). *Muzykoterapia dziecięca*. WSiP, Gdańsk 2001.
- Marnet A., Lisowska A., Mess E. (2007). Rola muzykoterapii w opiece paliatywnej. *Onkologia Polska* 10(4): 178-180.
- Metera A. (2002). *Muzykoterapia : muzyka w medycynie i edukacji : poradnik dla lekarzy, muzykoterapeutów, nauczycieli, wychowawców, studentów kierunków pedagogicznych : materiały do prowadzenia zajęć terapeutycznych*. Leszno: Wydaw. Centrum Technik Nauki "Metronom".
- Moyne-Larpin Y., Korcuć Z. (2000). Muzyka jako sposób oddziaływania na osoby w podeszłym wieku. W: *Zeszyty Naukowe Wyższej Szkoły Humanistyczno-Ekonomicznej w Łodzi* Nr 7 (12).
- Ochwanowska A., Ochwanowski P., Gałuszka G., Gałuszka R., Borecki M. (2005). Research into influence of musicotherapy on rehabilitation of women after mastectomy. *Annales Universitatis Mariae Curie-Skłodowska Lublin – Polonia, Vol LX, Suppl. XVI*; 361: 115-119.
- Ochwanowska A, Ochwanowski P, Gałuszka G, i wsp. (2005). Badanie nad wpływem muzykoterapii na rehabilitację kobiet po mastektomii. *AUMCS Lublin, LX, Suppl XVI*, 361: 115-119.
- Paszkiewicz-Mes E. (2013), *Muzykoterapia jako metoda wspomagająca leczenie (Music therapy as a supportive element in medical care)*. *Hygeia Public Health*, 48(2), 168-176.

Pospiech W. , Nowacka K., Głowacka I., Włodarczyk-Przybylska D., Hagner-Derengowska M., Latacka K., Kitschke E. (2009). Wpływ wokalnoinstrumentalnych form epoki baroku na relaksowanie pacjentów poddanych diagnozie onkologicznej (The influence of vocal and instrumental forms of baroque music on relaxation of patients undergoing oncological diagnosis). *Medical and Biological Sciences*, 2009, 23/3, 5-7.

Pospiech W. (2009). (red). *Muzykoterapia służbą człowieka*. Wyd Naukowe UMK, Toruń.

Ruda K., Kazanowska B. (2011). Muzykoterapia jako jeden z elementów kompleksowej opieki nad dzieckiem z chorobą nowotworową. *Onkologia Polska*, 1, 22-25.

Stachyra K. (2009). *Muzykoterapia i wizualizacja w rozwijaniu kompetencji emocjonalnych studentów pedagogiki*. Wydawnictwo UMCS, Lublin.

Stachyra K. (2001). *Publikacje polskojęzyczne przydatne w muzykoterapii dzieci*. Przewodnik. Wydawnictwo Figaro, Lublin 2001.

Stachyra K. (2012a), *Guided Imagery and Music* [w:] K. Stachyra (red.) *Modele, metody i podejścia w muzykoterapii*, UMCS, Lublin, s. 33-50.

Stachyra K. (2012). *Podstawy muzykoterapii*, UMCS, Lublin.

Stachyra K. (2012b). *Muzykoterapia w okresie prenatalnym i u noworodków* [w:] K. Stachyra (red.) *Podstawy muzykoterapii*, UMCS, Lublin, s. 147-160.

Stachyra K. (2012c). *Relaksacja w muzykoterapii* [w:] K. Stachyra (red.) *Podstawy muzykoterapii*, UMCS, Lublin, s. 87-114.

Stachyra K. (2008), *Rola muzyki i wyobraźni w muzykoterapii metodą Guided Imagery and Music (GIM)*, „*Psychoterapia*” 2 (145), s. 63-68.

Stachyra K. (2007), *Efektywność muzykoterapii w rozwijaniu kompetencji emocjonalnych studentów*, „*Psychoterapia*” 3 (142), s. 67-79.

Śliwka A., Jarosz A., Nowobilski R. (2006). *Muzykoterapia jako składowa kompleksowego leczenia*. *Polski Merkurusz Lekarski XXI*; 124: 401-405.

Talar A.D., Łukowicz M., Dejewski I., Jedwabiński M. (2009). *Zagrożenia dla kształtowania się funkcjonowania narządów zmysłów oraz rozwoju psychoruchowego u wcześniaków*. [w] *Edukacyjne zagrożenia i wyzwania młodego pokolenia*. Edukacja XXI wieku. Poznań.

Wilczek-Różyńska E. (red) (2007). *Podstawy pielęgniarstwa psychiatrycznego*. Wyd Czelej, Wrocław.

Zawadka M, Krajewski S. (2009). *Muzykoterapia jako forma wspomaganie leczenia choroby Parkinsona*. *Valetudinaria. Post Med. Klin Wojsk*, 14 (1):32-35.

Zych B., Ostrowska K., Bernaś E., Kraśnianin E. (2011). Muzyka w medycynie jako składowa leczenia noworodków przedwcześnie urodzonych (Music in medicine as a component of treatment of premature infants). *Pielęgniarstwo XXI*, 2 (35), 69-73.

Żurawska-Seta E., Seta R. (20005). *Muzykoterapia w pracy z dzieckiem autystycznym*. W: *Terapie wspomagające rozwój osób z autyzmem*. Kraków: "Impuls".

Żychowska T. (2005). *Walory terapeutyczno-wychowawcze muzykoterapii dzieci i młodzieży w wieku szkolnym*. W: *Nowe trendy w edukacji muzycznej*. Lublin, UMCS.

2. Outcome studies on the efficacy of art therapy in Poland

A near the end of the first decade of the 21st century art therapist, and artists continue to affirm art therapy is a form of psychological help which can support medical approach to treatment both of clients or patients - adults, as well as child and adolescent psychiatry (Kornacka, 2000, Fryze, 2000; Szulc, 2011), because it offers children, teens and adults a safe and nurturing environment to experience and express thoughts and feelings in a non-threatening and meaningful way. While the pioneer of Polish art therapist professor Stefan Szuman published the first written in Polish article about art therapy, *Impact on the psyche of the child's fairy tale* in 1928 in the journal "Public School". Art therapy has often been applied in the treatment of major mental illnesses and transient disorders in children and adolescents and serious symptoms of trauma, social problems and substances abuse or mental prevention (Gmintrowicz 2000, Janicki 2000). Occupational therapists use art in treatment, assessment and research, and provide consultations to allied professionals. Yet there is a need for evidence that this is good results in clinical practice. However, although art therapy experts underline these benefits, the effectiveness of art therapy in some mental or somatic illnesses treatment has not been established by systematic review in Poland. The aim of this report is to identify and describe empirical evidence of the effectiveness of art therapy for some mental and somatic illnesses treatment in Poland.

To identify how far the field has come lately, we undertook a systematic review of the literature academic books and journals in the field of art therapy (Arte Therapy). We also searched for outcome studies using art therapy treatment in the related fields of creativity, psychology, psychiatry, counseling, education, nursing, and medicine. We made consultation with experts, too.

Art therapists practicing in Poland for several years often comment that their clients' problems have decreased in severity in the past years and they produce evidence to support intuitive knowledge that art heals. The studies or reports usually included discussion about the role of art in counseling and treatment combined art therapy with other interventions, making it impossible to determine the actual effect of the art therapy intervention itself as the agent for positive change and they did not provide detailed descriptions of the art therapy intervention. There is a small body of quantifiable data to support the claim that these predicament is effective in treating a variety of symptoms, age groups, and disorders and an overall lack of standardization and reporting in the literature on outcome studies. Additionally, many of the studies reviewed combined art therapy interventions with other expressive arts (such as video, dance, movement, theater, writing, and music) or with other types of treatment interventions and did not utilize interventions or activities facilitated by a trained art therapist or qualified clinician (such as studies in which the participants did art activities on their own).

The literature study by Maja Stańko (2009) provided in-depth discussions about art therapy as a form of psychological help to treatment of mental disorders in children and adolescents. Art Therapy is used in the treatment of children and adolescents in group sessions, individual or jointly with family members. A selection of art therapy interventions for children and adolescents she presented from developmental psychopathology perspective. The main tool for art therapy - artistic activity, is, usually easily to use for children (Sikorski, 1999). Psychotherapy for art is especially suitable for children because it uses a form of communication that is familiar and much more within reach than the spoken language. In the process of creation and manipulation of an image or art object, children express in both symbolic and literal form their fears and hopes, tell us about what is important, what worries them and excites them. It is for children and adolescents who are at interrupted form attachments with others at any stage of development and it is a source of stimulation and an excellent opportunity to a child to explore in a safe

environment, promotes the development of relationship with caregivers or supervisor, security, sense of agency (to have control over their own activities) and a child would initially form attachment (Stańko, 2009).

Outcome studies show long term and group art therapy is effective in promoting cognitive and emotional development, enabling relationships and lessening destructive behaviors in adolescents (Popek, 2007). Art therapy literature contains many sound arguments for and descriptions of the use of art therapy with children and adolescents with eating disorders (Handford, 2009), anxiety disorder (Kozłowski, 2000) and identity problems (Jackowska 1997; Bardziejewska, 2004) but lacks a significant amount of quantitative data, comparison groups, larger subject groups, multi-site or replicated studies. Stańko (2009) described evidence that art therapy enables resistant members of the family to change their cognitive distortions. This finding may be important for a children and adolescents with trauma symptoms. Dyad Art Therapy - parent and child/adolescent sessions or sibling sessions are aimed at strengthening bonds and developing communication through creative expression. Some authors (Ribner, 2005) suggested that art therapy could be used as a means of stimulating the children's adolescents's awareness of feelings.

Marek (2004) stated that art therapy is a method of supporting educational work with children and adolescents.

Jackowska (1997) implemented psychodrawing with hospitalized adolescents who were being treated for mental problems. The results indicated statistically significant symptom reduction in these population.

Szulc (2011) also views artwork as a valuable tool to help to increase an individual's awareness of well-being. She contends that art work represents a less threatening and more controlled means of expression.

Stańko (2008) presented a synthesis of art therapy methods and their results used with oncological patients from the domestic specialist literature. Art therapy is one of the most promising methods of psychological aid offered to cancer patients. Although the results yielded clinically significant improvements in experienced anxiety and depression, decreased level of stress, and enhancement of self-assessment of global health.

Turuk-Nowak (1999) was concerned with the impact of art therapy use on an adults and children oncology unit.

Art therapy appears to be effective, but there are not evidence that usually more effective than the standard therapy. Even though much more research is needed. Small body of studies now exists in Poland in which art therapy as a treatment modality has been isolated, measured, and shown to be statistically significant in improving a variety of symptoms for a variety of people with different ages.

Wita Szulc (2007) described art therapy in different settings with adults in Poland. Palliative art therapy is a form of care over a patient in terminal state where art in different forms is utilized, for example bibliotherapy, poetry therapy, music therapy, and visual therapy. In her opinion the choice which kind of art will be applied is with the patient depending on his preferences as well as the competencies of the person providing care. She also discusses the characteristics of palliative art therapy which make it distinct from other types of therapy and focuses on its selected most representative forms. She also describes the achievements of a few most prominent artists (Munch, Mahler), which at certain stages of their lives was consoling to them at the time when their beloved ones passed away. The knowledge of this art should, in her view, help the care providers in the palliative care better understand the emotional states of persons coping with the problems of existence.

References

Handford O., Arteterapia dla osób z zaburzeniami odżywiania, Arte Terapia, 2009.

Ribner N.G., Terapia nastolatków, Gdańsk: Gdańskie Wydawnictwo Psychologiczne 2005.

Stańko-Kaczmarek M., Arteterapia jako metoda profesjonalnej pomocy chorym na nowotwory, Contemporary Oncology, Współczesna Onkologia, 2008, 12(3), 148-152.

Szulc W. (2007). ARTETERAPIA PALIATYWNA. BARWY ZACHODZĄCEGO SŁOŃCA Polskie Forum Psychologiczne, 2007, tom 12, numer 1, s. 22–30.

Marek E., Arteterapia jako metoda wspomagająca pracę wychowawczą, W: Sztuka w edukacji i terapii, Knapik M, Sacher A (red.). Oficyna Wydawnicza Impuls, Kraków 2004, 104-19.

Turuk-Nowak T., Pomoc psychologiczna pacjentom onkologicznym. Zmagając się z chorobą nowotworową., W: Kubacka-Jasiecka D, Łosiak D (red.). Wydawnictwo Uniwersytetu Jagiellońskiego, Kraków 1999; 225-41.

Kopczyńska-Tyszko A., Pomoc psychologiczna pacjentom onkologicznym, W: Zmagając się z chorobą nowotworową, Kubacka-Jasiecka D, Łosiak D (red.). Wydawnictwo Uniwersytetu Jagiellońskiego, Kraków 1999, 125-39.

Starzomska M., Wybrane aspekty psychicznego funkcjonowania i psychoterapii pacjentów onkologicznych. Psychoterapia 2001, 1, 53-64.

Gmitrowicz A. Rola arteterapii w psychiatrii, W: Karolak W., Gmitrowicz A. (red.). Znaczenie arteterapii w psychiatrii polskiej, PK InSEA, Łódź 2000; 10–12.

Janicki A. Arteterapia we współczesnym krajowym leczeniu psychiatrycznym. Uwagi o potrzebie i możliwościach rozwoju, W: Karolak W., Gmitrowicz A. (red.). Znaczenie arteterapii w psychiatrii polskiej, PK InSEA, Łódź 2000, 23–25.

Sikorski W., Rysunek jako pozawerbalna technika diagnostyczno-terapeutyczna. Gestalt 1999, 6, 3–9.

Kornacka B., Laskowska A., Popek L. Arteterapia w Psychiatrycznym Oddziale Dziennym dla Dzieci — doświadczenia własne. W: Karolak W., Gmitrowicz A. (red.). Znaczenie arteterapii w psychiatrii polskiej. PK InSEA, Łódź 2000; 95–98.

Fryze M., Łucka I., Stępnicka J. Arteterapia, użyteczność w psychiatrii dziecięcej, W: Karolak W., Gmitrowicz A. (red.). Znaczenie arteterapii w psychiatrii polskiej. PK InSEA, Łódź 2000; 92–94.

Stańko M., Odbiorcy, metody i efekty arteterapii — synteza badań, W: Karolak W., Gmitrowicz A. (red.). Znaczenie arteterapii w psychiatrii polskiej, PK InSEA, Łódź 2000, 185–196.

Popek L., Zaburzenia funkcjonowania społecznego rozpoczynające się w dzieciństwie lub w wieku młodzieńczym, W: Namysłowska I. (red.). Psychiatria dzieci i młodzieży. Wydawnictwo Lekarskie PZWL, Warszawa 2007; 146–150.

Appelt K., Wiek poniemowlęcy. Jak rozpoznać potencjał dziecka? W: Brzezińska A.I. (red.). Psychologiczne portrety czło wieka. Gdańskie Wydawnictwo Psychologiczne. Gdańsk 2004; 95–130.

Appelt K., Wiek szkolny. Jak rozpoznać potencjał dziecka? W: Brzezińska A.I. (red.). Psychologiczne portrety człowieka. Gdańskie Wydawnictwo Psychologiczne 2004; 259–303.

Popek L., Zaburzenia emocjonalne rozpoczynające się w dzieciństwie. W: Namysłowska I. (red.). Psychiatria dzieci i młodzieży. Wydawnictwo Lekarskie PZWL, Warszawa 2007; 129–140.

Kozłowski J. O potrzebie arteterapii zjawisk lękowych u dzieci. W: Popek S., Tarasiuk R. (red.). U podstaw edukacji plastycznej, Wydawnictwo UMCS, Lublin 2000; 173–175.

Bardziejewska M., Okres dorastania. Jak rozpoznać potencjał nastolatków? W: Brzezińska A.I. (red.). Psychologiczne portrety człowieka. Gdańskie Wydawnictwo Psychologiczne, Gdańsk 2004; 345–378.

Jackowska E., Autoportret w grupowej i indywidualnej psychoterapii młodzieży. Psychoterapia 1997; 4: 37–44.

Jackowska E. Z, doświadczeń w prowadzeniu psychoterapii grupowej na młodzieżowym oddziale psychiatrycznym, Psychoterapia 1996; 1: 31–38.

Szulc W., Arteterapia. Narodziny idei, ewolucja teorii rozwój praktyki, „Difin”, Warszawa 2011.

Kornacka B., Laskowska A., Popek L. Arteterapia w Psychiatrycznym Oddziale Dziennym dla Dzieci — doświadczenia własne, W: Karolak W., Gmitrowicz A. (red.). Znaczenie arteterapii w psychiatrii polskiej. PK InSEA, Łódź 2000, 95–98.

3. Effectiveness of occupational therapy interventions in Poland

Occupational therapists facilitate optimal occupational performance and community participation across the full spectrum of ability, from healthy adults actively engaged in their communities to those who are coping with serious physical and mental health conditions in more supported environments like assisted living facilities and nursing homes. Occupational therapy practitioners utilize their understanding of the functioning process to enable children and adults in need to participate in meaningful activities in their desired environment given their

individual abilities and personal attributes. Occupational therapists can implement and execute broad theoretical ideas and they usually practice in a client-centered way to ascertain what aspects of occupation and occupational performance are important to clients depending on their stage of health, disability, illnesses, age and needs. Occupational performance is the result of a dynamic relationship between people, environment and occupation across the life span.

Sienkiewicz-Wilowska (2013) described differences in the definition of occupational therapy in Poland and elsewhere, related to various methods of therapy. In Poland, occupational therapy is mainly art therapy and components of occupational and social therapy. Often it is combined with improvement of work skills. Outside Poland, occupational therapy also includes intervention in the patient's living environment and places special emphasis on daily activities. The aim of this occupational therapy is to promote welfare and to enable people to perform their routine daily activities. Occupational therapy in Poland requires better compliance with standards developed by the international associations of occupational therapy (WFOT, COTEC).

To date in Poland there has been few critical reviews of the investigations effectiveness in this area to determine whether occupational therapy intervention strategies used separately or in combination are effective in enabling occupation and occupational performance and in enhancing the quality of life for people of different ages.

Studies confirm occupational therapy's positive effects on perceived quality of life. New research findings now show that a methodical use of occupation therapy for treatment purposes can serve as a soothing function in severe medical treatments and also have an identity-strengthening function in youths with severe psychosocial problems. In addition to dealing with someone's physical well-being, OT practitioners address psychological, social, and environmental factors that can affect functioning in different ways. This approach makes OT a vital part of health care for some kids and adults.

The critical review suggests that there is evidence to support the effectiveness of occupational therapy programs for older adults, although there is a need for ongoing, well-controlled and longitudinal research in this area in Poland. Older people can obtain tangible benefits from a

health-promoting, occupation-focused intervention. Health-promoting services involving older people need to be embedded into communities (Brzezińska, Rosiński, Rycielska, 2010; Jurek, 2012).

Occupational therapists work with older adults (Tobis, 2011) including those with disabilities (Wiliński, 2010), by building relationship with them, their families, caregivers, and community stakeholders. Occupational therapists advocate for and help plan safe, accessible, affordable, and age-friendly living options and community environments. Occupational therapists work with other professionals to assess and help clients develop the skills needed to engage in healthy and meaningful lives.

Enabling occupation with older adults often takes the form of art therapy, musictherapy, choreotherapy, dramatherapy, ergotherapy, but very seldom it takes the form of education and functional training in occupational performance (i.e., self-care, productivity and leisure) (Kozaczuk, 1999). In the guidance for occupational therapists, also listed were bibliotherapy, chromotherapy, poemtherapy, aesthetictherapy, kinesis therapy and relaxation (Kuc, 2007). Some of them are associated with rehabilitation of the elderly. The objectives of occupational therapy are defined very broadly as "mental and physical rehabilitation and vocational training and retraining" (Kuc, 2007, p. 7). According to Sienkiewicz-Wilowska occupational therapy serves as "preparation for life in a social environment", "overall improvement", "the development of the ability to perform activities of daily living," "mastering activities preparing them for work", "developing basic and specialized professional skills, allowing gainful employment or vocational training" (2013, p. 7).

Agnieszka Bajer i Andrzej Kwolek (2008), conducted qualitative studies involving occupational therapy education programs for older adults after a stroke. This study suggested that there is evidence to support the effectiveness of occupational therapy for older adults although there is a need for ongoing, well-controlled and longitudinal research in this area.

Cechnicki (2009) states that some occupational therapy strategies (dramatherapy) are useful to therapists working with schizophrenics in different settings.

Dominika Zawadzka with colleagues (2012) implemented such a project within one year regarding Evaluation of the effectiveness of the therapeutic program combining elements of occupational therapy and Veronica Sherborne's Developmental Movement approach in autistic children. The sample included 20 children diagnosed with autism (their ages ranged from 3 to 6 years). During the first six months the program was applied to 10 children. During the next six months, the next group of 10 children was subjected to the treatment. The results obtained from each group were statistically analysed and the progress was compared between the groups. Due to the lack of significant differences between group, the final analysis was carried out for the entire study sample. The patients were recruited from the population of children undergoing treatment at the mental Health Clinic in Wroclaw and the Centre of Rehabilitation and Neuropsychiatry "Celestyn" in Mikoszow. The basic diagnostic tool applied in the study was the Scale of Observation of Autistic Children Actions (SOACA), developed by Bogdanowicz. This involved observation of the changes occurring in five aspects of psychomotor development; the four aspects are considered basic ones. These are: the cognitive, emotional, social and motor aspect. The results showed that the applied therapeutic program most effectively affected the emotional, social and cognitive aspects in autistic children. The treatment proved most effective in the following aspects of psychomotor development: mood, physical contact, attitude to the activities and attitude to the partner in pair work.

Struensee's research (2010) confirmed the effectiveness of occupation therapy (kinesitherapy) on motor efficiency of patients with Parkinson's disease. The aim of the study was the evaluation of a treatment program effectiveness using kinesis therapy exercises on overall motor efficiency of patients with Parkinson's disease. In this, 14 subjects with Parkinson's disease were tested, forming the research group. In the diagnostic part patients were evaluated by the Unified Parkinson's Disease Rating Scale (UPDRS) – part III. The therapeutic part included kinesitherapist program of streamlining the patient at home. The presented results indicate the improvement of most of the symptoms characteristic of Parkinson's disease in patients treated with the therapeutic programme.

Contemporary special education is still looking for new and effective methods of supporting people with intellectual disabilities in their unassisted, independent and active functioning in an open society. Undoubtedly, improving the professional competence in relation to

individuals with disabilities is an important factor in the transition to the open labour market and social inclusion. Elżbieta Włodek (2014) made a research report about support for professional competence development being a determinant of professional inclusion of the participants of occupational therapy workshops. She presented effects of the research, which has been testing the effectiveness of an innovative training programme: "I have grown up and I want to work" in raising professional skills of participants of occupational therapy workshops. The research was set in the ecological paradigm, based on the concept of an interactive model of rehabilitation of people with intellectual disabilities. The research covered a group of 150 people with intellectual disabilities. The primary method of the research was a pedagogical experiment implementing the technique of parallel groups. An experimental factor was implemented in the training programme "I have grown up-I want to work". Evaluation of the effectiveness of the programme was carried out using an Adjustment to work situation scale, developed by W. Otrębski.

Some people may think that occupational therapy is only for adults. But a child's main job is playing and learning, and occupational therapists can evaluate kids' skills for playing, school performance, and daily activities and compare them with what is developmentally appropriate for that age group. OT can help kids with various needs improve their cognitive, physical, sensory, and motor skills and enhance their self-esteem and sense of accomplishment.

Ewa Baum (2008) specifies the types of occupational therapy: art therapy (art workshops, music activities), bibliotherapy, rehabilitation, doggotherapy, hippotherapy and she illustrates the use of occupational therapy treatment which focuses on helping children with a physical, sensory, or cognitive disability be as independent as possible in all areas of their lives. (infantile cerebral palsy, a school with integration, Down's syndrome). Her book discusses examples of revalidation exercise-play to improve: visual-motor coordination, the level of graphics, passive speech, active speech level of understanding (especially the understanding of mathematical concepts), orientation in space, the orientation of the body schema, analysis and synthesis of auditory.

Children with a physical, sensory, or cognitive disability (for example, autism) receive two forms of occupational therapy: occupational therapy using standard techniques, and occupational therapy incorporating animals. For children with special needs, the ability to interact with a dog, cat, or other furry friend can have a very positive impact upon their quality of life. Interacting with a pet can sometimes enhance recovery following a serious illness. It can change behavior, create a sense of responsibility and even improve a child's ability to participate in therapeutic treatment leading to achievement in relation to identified goals and objectives. Children are often extremely trusting and easily achieve a level of intimacy with animals. This special bond contributes to pets' effectiveness as co-therapists. The potential benefits of animal assisted therapy for children with special needs has been described (Franczyk, 2008; Kulisiewicz, 2007, 2009).

There are some issues regarding the reporting of the studies that are common across most articles. There is generally a lack of detail regarding the actual occupational therapy program that is being provided. This results in an inability to understand the specific intervention or group of interventions and to duplicate the study. Similarly, in studies including occupational therapy, there is a lack of clarity as to what is being done uniquely by OT professionals leading to results that cannot be attributed to the other profession.

References

Franczyk A., Krajewska K., Skorupa J., *Animaloterapia: Program Przedszkolnego Klubu Animals "Cztery łapy"*, Wyd. 2. Kraków: Oficyna Wydawnicza "Impuls", 2008.

Kulisiewicz B., Witaj, piesku!: *dogoterapia we wspomaganie rozwoju dzieci o specjalnych potrzebach edukacyjnych*. Kraków: Oficyna Wydawnicza "Impuls", 2007.

Kulisiewicz B., *Dogoterapia we wspomaganie nauki i usprawnianiu techniki czytania*, Kraków: Oficyna Wydawnicza "Impuls", 2009.

Baum E., *Terapia zajęciowa*, Warszawa: Fraszka Edukacyjna, 2008.

Włodek E., *Wsparcie rozwoju kompetencji zawodowych jako determinant inkluzji zawodowej uczestników warsztatów terapii zajęciowej*.

Doniesienie z badań, Segregacja–Integracja–Inkluzja, red. B. Grochmal-Bach, A. Skoczek, Wydawnictwo WAM, Kraków 2014, s. 163-197.

Struensee M., Idzikowki M., Przytalska L., Bułatowicz I., Kazimierczak U., Srokowski G., Ocena wpływu kinezyterapii na sprawność motoryczną pacjentów z chorobą Parkinsona (INFLUENCE OF KINESITHERAPY ON MOTOR EFFICIENCY OF PATIENTS WITH PARKINSON'S DISEASE), *Nowiny Lekarskie* 2010, 79, 3, 191–198.

Zawadzka D., Zawadzka P., Bugaj R., Curyło M., Gumułka A., Bukowska A., Ocena skuteczności programu terapeutycznego, łączącego elementy terapii zajęciowej oraz Metody Ruchu Rozwijającego Weroniki Sherborne, realizowanego w grupie dzieci autystycznych. Doniesienie wstępne. (Evaluation of effectiveness of the therapeutic program combining elements of occupational therapy and Veronica Sherborne's Developmental Movement approach in autistic children. A preliminary study), *Fizjoterapia Polska*, 2012; 4(4), Vol. 12, 405-416.

Cechnicki A., Rehabilitacja psychiatryczna — cele i metody, *Psychiatria w Praktyce Klinicznej* 2009, 2, 1: 41–54.

Bajer, A., Kwolek, A. (2008). Ocena jakości życia osób starszych po udarze mózgu – doniesienie wstępne. *Fizjoterapia*, 16 (1), 52–63.

Brzezińska, A. I., Rosiński, D. i Rycielska, L. (2010). Aktywizacja lokalnych społeczności: miejsce dla osób z ograniczeniami sprawności. *Polityka Społeczna*– numer monograficzny pt.: Diagnoza potrzeb i podstawy interwencji społecznych na rzecz osób z ograniczeniami sprawności, 55–58.

Jurek, Ł. (2012). "Aktywne starzenie się" jako paradygmat w polityce społecznej. *Polityka Społeczna*, 3, 8–12.

Kowalik, S. (1999). *Psychospołeczne podstawy rehabilitacji osób niepełnosprawnych*. Katowice: Biblioteka Pracownika Socjalnego.

Kowalik, S. (2007). *Psychologia rehabilitacji*. Warszawa: Wydawnictwa Akademickie i Profesjonalne.

Kowalik, S. (2007). Bariery utrudniające włączanie osób niepełnosprawnych w życie społeczne. Próba sformułowania nowego podejścia teoretycznego. *Nauka*, 3, 49–69.

Kozaczuk, L. (1999). *Terapia zajęciowa w domach pomocy społecznej. Przewodnik metodyczny*. Katowice: Biblioteka Pracownika Socjalnego.

Kuc, M. (2007). *Stosowanie terapii zajęciowej w procesie aktywizacji podopiecznego*. Radom: Instytut Technologii Eksploatacji – Państwowy Instytut Badawczy.

Milanowska, K. (1982). *Techniki pracy w terapii zajęciowej*. Warszawa: Państwowy Zakład Wydawnictw Lekarskich.

Nawrot, J. (1973). Ergoterapia dziecka upośledzonego fizycznie. Warszawa: Państwowy Zakład Wydawnictw Lekarskich.

Tobis, S., Kropińska, S. i Cylkowska-Nowak, M. (2011). Arteterapia jako forma terapii zajęciowej w aktywizacji osób starszych. *Geriatrics*, 5, 194–198.

Wiliński, M. (2010). Modelowe strategie pomocy osobom z ograniczeniami sprawności: medykalizacja – usprawnianie – włączanie. W: A. I. Brzezińska, R. Kaczan i K. Smoczyńska (red.), *Diagnoza potrzeb i modele pomocy dla osób z ograniczeniami sprawności* (s. 60–95). Warszawa: Wydawnictwo Naukowe Scholar.

Sienkiewicz-Wilowska J., *Terapia zajęciowa w usprawnianiu osób starszych*, *Edukacja*, 2013, 3 (123), 106-116.

Żukowski, M. (2010). Unijna strategia integracji społecznej. *Polityka Społeczna*, 9, 2–7.

4. Outcome studies on the efficacy of occupation therapy in the World

Occupational therapists provide treatment for children, adolescents and adults with a range of disorders in a variety of settings including hospitals (acute rehabilitation, in-patient rehabilitation, and out-patient rehabilitation), home health, skilled nursing facilities, and day rehabilitation programs. When planning treatment, occupational therapists address the physical, cognitive, psychosocial, and environmental needs involved in youth and adult populations across a variety of settings. Occupational therapy (OT) is the use of assessment and treatment to develop, recover, or maintain the daily living and work skills of people with a physical, mental, or cognitive disorder.

Evidence showed occupational therapy interventions are cost-effective in treating or preventing injury and improving health outcomes in areas such as falls prevention, musculoskeletal injury, stroke rehabilitation, early intervention in developmental disabilities, respiratory rehabilitation and home care. Additional research indicates opportunities for occupational therapy to play an increased role in the management of health

outcomes in complex and chronic diseases, pain management, non-pharmaceutical mental health interventions, dementia, end-of-life or palliative care and home care.

The purpose of some reports were to identify evidence that examined both costs and effects of occupational therapy practice. Overall, these reports provided a basic understanding of the economic impact of occupational therapy services and provided some insight into interventions that measure health outcomes against health care costs.

A lot of articles were reviewed relating to cost effectiveness and occupational therapy in the areas of therapeutic interventions in mental health and depression, preventative occupational therapy for aging adults, occupational therapy in end of life care or palliative care, and the other related therapies in the insurance industry. In general, the conclusions suggest a strong foundation of evidence indicating positive health outcomes in occupational therapy intervention with good value from an economic perspective (Anderson et al., 2000; Griffith et al., 2001).

There is also opportunity for occupational therapy to reduce health care spending through its contributions to health care transformation, and these opportunities are discussed in the literature.

Examining the effectiveness of occupational therapy interventions from the client's point of view is one of the key research priorities for the profession. Occupational therapy in mental health should reflect user needs, preferences and aspirations in addition to ensuring high quality reported outcomes. Further, occupational therapy needs to ensure that its services are understood and made visible, including what works for whom, when and why.

Some international studies gave profile to the range of research evidence being amassed, and authored by occupational therapists, working within mental health. The synthesis provided a wealth of evidence to inform practice, education and policy about what makes interventions successful based upon clients' and carers' perspectives.

The findings of these studies suggested that there were a particular set of attributes that are important to any intervention type, and such attributes reflect the capabilities of the therapist, the way in which an intervention is delivered, and the context in which it is delivered. The

findings presented do not specifically attempt to rank different intervention types in terms of their relative effectiveness (for example, intervention type 'X', is more effective than intervention type 'Y'). Nor do the findings suggest that particular interventions being used by occupational therapists in one country are perceived to be more beneficial to clients and carers than those being used elsewhere. However, it was evident that occupation therapy is found to be central to health systems in Western countries. The effectiveness of the intervention was evidenced by good interaction skills, illustrated by therapists' demeanor, genuineness and respect towards clients. Building a trusting and supportive relationship with the client was seen to be a pivotal component of therapists' effectiveness.

The increasing emphasis in medicine and school on effective outcomes highlights the need for evidence-based studies to improve patient care and provide effective use of limited resources (Whalen, 2003). In occupational therapy, this vital need has been emphasized by the recent surge of scholarly writings appealing for empirical outcomes research (Taylor, 2000; Tickle-Degnen, 2000). Although the quality of published studies is improving (Holm, 2000), rigorous effectiveness studies in different units are just beginning to emerge in some countries in the world (Whalen, 2003).

Within multidisciplinary care for Parkinson patients, the primary role of occupational therapy (OT) is to optimize activity performance and engagement in valued activities and roles in the home or community context (occupational performance). Some studies evaluate OT as part of a multidisciplinary intervention and a meta-analytic review showed that occupational therapy intervention results in small to moderate positive effects on outcomes related to patient capacities and abilities, as well as for outcomes related to function during activities and tasks (Ellis, 2008; Tickle-Degnen 2010; 2003; Trend, 2002; Guo, 2009). But the specific contribution and added value of OT was determined in Europe by Dutch researchers (Sturkenboom, Graff, Borm, Adang, Nijhuis-van der Sanden, Bloem and Munneke, 2013). This was the first large-scale trial specifically evaluating occupational therapy in Parkinson's disease. It was expected to generate important new information about the possible added value of occupational therapy on the daily functioning of patients with Parkinson's disease. From 2006 to 2008 they developed guidelines for OT in Parkinson's disease (in Dutch), under the auspices of the Dutch Association of Occupational Therapy, with the aim to

improve uniformity and quality of OT in Parkinson's disease (Sturkenboom, 2008, 2012). This trial, the OTiP study, evaluated the effectiveness and cost-effectiveness of OT according to the guidelines for OT in Parkinson's disease. A multicenter, assessor-blinded, two-armed randomized controlled clinical trial was conducted. Patients and their caregivers were assigned to the experimental group or to the control group in a ratio of 2:1, respectively. An evaluation was done from a health perspective by evaluating the differences in total well-being in the control and experimental group at three and six months. The contribution of OT in Parkinson's was widely recognized.

There is scarce data related to the effectiveness of occupational therapy depending on motor, cognitive, and psychosocial dysfunctions.

About 80% of patients become disabled after stroke due to cognitive, motor dysfunctions leading to unsatisfactory daily activity and efficiency.

The study in Lithuania included patients at the early stage of rehabilitation after a stroke (2005, 2008). The aims of one research were to evaluate the level of biosocial dysfunctions of patients with stroke by functional independence measure (FIM) and to assess the effectiveness of occupational therapy and the factors influencing it. The contingent of the examined patients consisted of 100 patients after a stroke and rehabilitated in the Department of Neurorehabilitation at Kaunas University of Medicine Hospital. The findings of the research have shown that occupational therapy is effective for all patients. However, there were significant differences in the averages of FIM points ($p < 0.05$) between low, medium and high effectiveness groups. The conclusion has been made that the effectiveness of occupational therapy is influenced by the following factors: the level of injury, the localization of brain damage, dysuria, passage, memory dysfunctions, unilateral neglect ($p < 0.05$) (2005).

The second study included 106 patients at the early stage of rehabilitation, who were admitted to the Department of Neurorehabilitation after the stabilization of the clinical condition by the Departments of Neurology and Neurosurgery (mean duration of 14 ± 2 days after stroke).

Application of individualized occupational therapy complexes for stroke patients at the early stage of rehabilitation with consideration of motoric and cognitive-psychosocial disorders, significantly improves recovery of impaired functions, though occupational therapy should be continued in later rehabilitation stages, since patients after the early stage of rehabilitation still have limited independence in daily activities (2008).

Legg et al., Drummond, Langhorne (2009) reported the results of an occupational therapy study for patients after a stroke conducted in the UK. Occupational therapy aims to help people reach their maximum level of function and independence in all aspects of daily living. Reviewing nine studies with 1258 participants, people who had a stroke were more independent in personal activities of daily living (feeding, dressing, bathing, toileting and moving about) and more likely to maintain these abilities if they received treatment from an occupational therapist. They identified 64 potentially eligible trials and included nine studies (1258 participants). Occupational therapy interventions reduced the odds of a poor outcome (Peto odds ratio 0.67 (95% confidence interval (CI) 0.51 to 0.87; $P = 0.003$). and increased personal activity of daily living scores (standardised mean difference 0.18 (95% CI 0.04 to 0.32; $P = 0.01$). For every 11 (95% CI 7 to 30) patients receiving an occupational therapy intervention to facilitate personal activities of daily living, one patient was spared a poor outcome. Patients who receive occupational therapy interventions are less likely to deteriorate and are more likely to be independent in their ability to perform personal activities of daily living. However, the exact nature of the occupational therapy intervention to achieve maximum benefit needs to be defined. However, we still need to understand the best form of this occupational therapy input (for example, what should be provided, when it should be provided, how often and for how long) before we can plan how to best use it in health and social care settings.

Rapoliene and Krisciūnas (2006) investigated the effectiveness of occupational therapy in restoring the functional state of hands in rheumatoid arthritis patients in Lithuania. Standardized Functional Independence Measure was employed in order to evaluate the functional status of the patients and impaired activities. A dynamometer was used for the measurements of muscular strength of hands and a goniometer, for the range of motion of the wrist. In total, they have examined 120 rheumatoid arthritis patients. They were divided into two groups: 60 patients in each. Occupational therapy was applied only to the patients of the first group. The mean age of Group 1 patients was 53.4+/-1.8 years, the mean age of Group 2 patients was 52.0+/-1.9 years. The mean duration of the disease was 11.5+/-2.6 years and 12.1+/-2.4 years, respectively. Therapy was considered ineffective if, after the completion of the course of occupational therapy, no increase in Functional Independence Measure score for patients with rheumatoid arthritis was observed. When the score increased from 1 to 3, they considered this as moderate

effectiveness; when the score increased to 4-6, they evaluated the effectiveness of occupational therapy as good, and when a score of 7 was attained, effectiveness of occupational therapy was considered as very good. In Group 1, the moderate effectiveness of occupational therapy was determined in 31.7% of patients; good effectiveness, in 61.7%; and very good effectiveness, in 3.3% of rheumatoid arthritis patients. In Group 2, the moderate effectiveness of treatment was determined in 48.3% of patients and good effectiveness, in 5% of rheumatoid arthritis patients. They conclude that hand function (the strength of fingers and hands, the range of motion of the wrist) significantly improved in patients with rheumatoid arthritis after completion of a course of occupational therapy ($p < 0.05$). The improvement of hand functions in patients with rheumatoid arthritis led to an increased ability to take food and drink, to wash themselves, to put clothes on the upper and lower parts of the body and take them off, to use the toilet, a bathtub or a shower, to walk, to manage a wheelchair, and to do personal hygiene ($p < 0.05$).

Similar studies, taking into account the use of occupational therapy in supporting the patient in making everyday activities was presented in publications by Sabina Jianu and Anca Macovei (2012). They analyzed the effect of occupational therapy on convalescence in elderly patients after acute myocardial infraction. Comparison of the parameters obtained after 3, 6 and 9 weeks of occupational therapy has proven not only its beneficial effects, but also the opportunities and constraints in the recovery of coronary system efficiency in the elderly.

To answer a question: Does occupational therapy help people with rheumatoid arthritis? some relevant research in full length articles (2002) identified in electronic searches in Medline. The reference list of identified studies and reviews were examined for additional references. The results showed there is "gold" level evidence that occupational therapy can help people with rheumatoid arthritis to do daily chores such as dressing, cooking and cleaning with less pain. Benefits are seen in occupational therapy and training, advice and counseling and also advice on joint protection can be found.

Similarly investigation was conducted in Ontario in Canada (2006), but researches compared the primary therapist model (PTM), provided by a single rheumatology-trained primary therapist, with the traditional treatment model (TTM), provided by a physical therapy (PT) and/or

occupational therapy (OT) generalist, for treating patients with rheumatoid arthritis (RA). Compared with the TTM, the PTM was associated with better outcomes in patients with RA. The results, however, should be interpreted with caution due to the high dropout rate in the TTM group.

The purpose of the study conducted at the University of Zurich in Switzerland in (2006) was to compare the short- and long-term effectiveness of an individualized, resource-oriented joint protection intervention with the standard, problem-oriented joint protection intervention for patients with rheumatoid arthritis. Occupational Therapy is an important intervention in the management of people with arthritis. Altering working methods (e.g. use of proximal joints, dynamic activities), energy conservation (balance between activity and rest) and using assistive devices should place less strain on joint structures weakened by the disease process. These strategies ought to decrease pain and stress on joints, improve function, and facilitate maintaining social roles. The effectiveness of Occupational Therapy in Patients With Rheumatoid Arthritis has been evaluated in a number of studies, all in a group setting. Occupational therapy has beneficial short-term effects on pain and function in patients with established RA and moderate functional problems. Using assistive devices reduces pain during task performance in comparison to normal methods and altering working methods significantly reduces difficulties in activities of daily living (ADL). However this generally does not result in significant behavioral changes and a long-term impact on reducing pain and maintaining function may only be reached if JP is taught using behavioral education methods. Additionally, adherence of RA patients to different interventions is generally modest, which may well determine the effectiveness of any given intervention, especially in the long-term.

Steultjens (2005) made an overview of systematic reviews (PubMed and the Cochrane Library) of OT practice in different conditions. The reviews included were those that utilized a systematic search for evidence with regard to OT for specific patient groups. Data was summarized for patient group, interventions, outcome domains, type of study designs included, method of data synthesis and conclusions. Fourteen systematic reviews were included. Three reviews related to rheumatoid arthritis, four reviewed stroke and four focused on elderly people. Reviews of Parkinson's disease, multiple sclerosis, Huntington's disease, cerebral palsy and mental illnesses were also identified. The reviews of

rheumatoid arthritis, strokes and elderly people showed evidence of the efficacy of OT in increasing functional abilities. Positive results were presented for quality of life and social participation in elderly people and strokes respectively. The efficacy of OT in all other patient groups is unknown due to insufficient evidence. This summary showed that elderly people and people with stroke or rheumatoid arthritis can expect to benefit from comprehensive OT. Evidence of the efficacy of specific interventions is sparse and should be addressed in future research.

A study in the USA (2010) investigated associations between occupational therapy interventions and goal-based positive outcomes in patients with multiple sclerosis (MS) and related disorders at discharge in an urban inpatient rehabilitation setting. Generally, patients improved in their FIM scores at discharge. Increasing occupational therapy intensity had a positive effect on functional performance in all categories except feeding, with significant correlations in upper-extremity dressing ($r = .153, p < .05$) and memory ($r = .204, p < .01$). Occupational therapy was associated with positive functional outcomes for patients with MS. Future treatment protocols should include cognitive skills training, community reintegration, and self-care, because these treatments were found to be significantly correlated with positive changes in FIM scores (Maitra, 2010).

Multidisciplinary rehabilitation programmes followed joint replacement at the hip and knee in chronic arthropathy. Khan (2009) found “silver” level evidence that showed that early multidisciplinary rehabilitation can improve the outcomes at the level of activity and participation following hip or knee joint replacement.

Schweickert with colleagues (2009) assessed the efficacy of combining daily interruption of sedation with physical and occupational therapy on functional outcomes in patients receiving mechanical ventilation in intensive care. Authors conclude that a strategy for whole-body rehabilitation—consisting of interruption of sedation and physical and occupational therapy in the earliest days of critical illness—was safe and well tolerated, and resulted in better functional outcomes at hospital discharge, a shorter duration of delirium, and more ventilator-free days compared with standard care.

Hastings J., Gowans S., Watson D.E. in Canada conducted a pilot study evaluating the changes in physical function of 23 individuals with an organ transplant who received 2 or more hours of occupational therapy while inpatients in an acute care facility. These individuals also received physiotherapy treatment that was retrospectively quantified. Post-operative function was evaluated at assessment and discharge from occupational therapy with the Functional Independence Measure (FIM). Significant improvements in FIM scores (mean change +22) were noted at discharge from occupational therapy and there was a positive correlation between attendances or minutes of occupational therapy and study participants' changes in function. Occupational therapy attendances or minutes were also negatively correlated with study participants' initial functional status, which suggests that individuals with lower function received more occupational therapy.

McClure (2010) recommended exercise and relaxation for people with breast cancer after his randomized, controlled, evidence-based study of the Breast Cancer Recovery Program for women with breast cancer-related lymphedema, because treatment group participants, compared with control participants, demonstrated significant treatment effects for improved bioimpedance, arm flexibility, quality of life, mood at 3 months, and weight loss. Adherence was high for this safe and effective program, which improved lymphedema physical and emotional symptoms.

In the literature there were few studies that evaluated the effectiveness of preventive occupational therapy (OT) services specifically tailored for multiethnic, independent-living older people recruited from a wide array of community settings. Clark (1997, 2012) designed a two randomized controlled trial and significant benefits for the OT preventive treatment group were found across various health, function, and quality-of-life domains. Because the control groups tended to decline over the study interval, our results suggest that preventive health programs based on OT may mitigate against the health risks of older adulthood.

Current evidence for the effectiveness of OT in dementia and their caregivers was delivered by some researchers (Kirshner, 2010; Gitlin, 2010; Pitrou, 2010). The results showed that usually caregivers perceived greater benefits than people with dementia (Kirshner, 2010).

This example of cost effectiveness and community-based occupational therapy is one study in an emerging field of research. In 2006, David MacDonald identified 20 primary economic evaluation articles related to occupational therapists performing an intervention in a home or

community care setting, in primary health teams, or related to waiting times. An additional 26 economic evaluation articles of health interventions were identified where occupational therapists were not the primary practitioner involved in the project, but the intervention fell under the areas of competency or scope of practice of occupational therapists (e.g., acquired brain injury, stroke rehabilitation, orthopedics, geriatric assessment including dementia, developmental disabilities, mental health, pain management and return to work, driving assessment and rehabilitation, fall prevention, and sensory motor integration)(MacDonald, 2006). Of the articles reviewed, MacDonald was able to identify a range of cost-effective interventions with fall prevention and early discharge for stroke patients being the most studied topics, presenting the firmest conclusions with regard to economic effectiveness (MacDonald, 2006).

The study investigating effectiveness of low-vision rehabilitation on participation in daily living and quality of life found significant improvements in overall quality of life and in two specific areas of daily living (reading and accessing information; emotional well-being) in people with low vision, although the magnitude and clinical significance of the rehabilitation-induced gains were modest (Lamoureux, 2007). German researchers evaluated the concept of occupational therapy for schizophrenic outpatients. Preliminary results from 18 patients suggested that occupational therapy for outpatients might contribute to an improvement in cognitive-adaptive functions and open up ways for further integration into the job market. The prognosis was favourable when the onset of occupational therapy was not equated with a rise in the level of professional adaptation and a certain approachability and flexibility were to be observed in cognitive, affective and intentional aspects among the chronic schizophrenic patients. With regard to cognitive functions and to professional adaptation, it proved more favourable for occupational therapy to be carried out within the framework of regular service enterprises (external occupational therapy, n = 9) and not within training areas of the psychiatric institution itself (internal occupational therapy, n = 9). Patients taking part in internal occupational therapy felt more heavily burdened by workplace conditions, and greater family-related strain seemed to develop in the therapeutic centre than was the case among patients participating in external occupational therapy (Lewandowski, Buchkremer , Hermann, 1992).

Occupation therapy is a common practice in pediatric practice in the West world (Canada and the United States, Europe). The provision of OT services to students in the school system continues to be a growing area.

King et al. (1999) reported the results of a study on school-based therapy services conducted in London, Ontario with fifty children ranging in age from five through twelve, with a variety of special needs, including cerebral palsy, fine motor difficulties, developmental coordination disorder, spina bifida and/or speech/language delays.

Early evidence for the effectiveness of "top-down" OT approaches in teaching specific tasks and in improving functional performance of children with DCD (Developmental Coordination Disorder) is beginning to appear (Polatajko et al., 2001).

Oliver (1990) and Case-Smith (2002) examined the effects of occupational therapy on writing readiness skills. The results showed significant increases in handwriting legibility.

The study supports the effectiveness of the Cog-Fun intervention in improving occupational performance and executive functions in daily life for young children with ADHD (Maeir, 2014).

Exploring the effectiveness of occupational therapy interventions, other than the sensory integration approach, with children and adolescents experiencing difficulty processing and integrating sensory information.

A Randomized Controlled Pilot Study of the Effectiveness of Occupational Therapy for Children With Sensory Modulation Disorder conducted Lucy Jane Miller, Joseph R. Coll, Sarah A. Schoen (2007). In this study twenty-four children with SMD were randomly assigned to one of three treatment conditions; OT-SI, Activity Protocol, and No Treatment. Pretest and posttest measures of behavior, sensory and adaptive functioning, and physiology were administered. Results showed that the OT-SI group, compared to the other two groups, made significant gains on goal attainment scaling and on the Attention subtest and the Cognitive/Social composite of the Leiter International Performance Scale–Revised. Compared to the control groups, OT-SI improvement trends on the Short Sensory Profile, Child Behavior Checklist, and electrodermal reactivity were in the hypothesized direction. Findings suggest that OT-SI may be effective in ameliorating the difficulties of children with SMD.

References

- Lewandowski L., Buchkremer G., Hermann T., The effectiveness of ambulatory occupational therapy measures for patients with schizophrenia, *Psychiatr Prax.* 1992, 19(4):122-8.
- Khan F, Ng L, Gonzalez S, Hale T, Turner-Stokes L., Multidisciplinary rehabilitation programmes following joint replacement at the hip and knee in chronic arthropathy, Published Online: 21 January 2009. http://summaries.cochrane.org/CD004957/MUSKEL_multidisciplinary-rehabilitation-programmes-following-joint-replacement-at-the-hip-and-knee-in-chronic-arthropathy
- Miller, L. J., Coll, J. R., & Schoen, S. A. (2007). A randomized controlled pilot study of the effectiveness of occupational therapy for children with sensory modulation disorder. *American Journal of Occupational Therapy*, 61, 228–238.
- Maeir A., Fisher O., Bar-Ilan RT., Boas N., Berger I., Landau YE., Effectiveness of Cognitive-Functional (Cog-Fun) occupational therapy intervention for young children with attention deficit hyperactivity disorder: a controlled study, *Am J Occup Ther.* 2014, 68(3):260-7.
- Oliver, C.E. (1990). A sensorimotor program for improving writing readiness skills in elementary-age children. *The American Journal of Occupational Therapy*, 44(2), 111-116.
- Polatajko, H.J., Mandich, A.D., Miller, L.T. & Macnab, J.J. (2001). Cognitive orientation to daily occupational performance (CO-OP): Part II-The evidence. *Physical and Occupational Therapy in Pediatrics*, 20(2/3), 83-106.
- Case-Smith, J. (2002). Effectiveness of school-based occupational therapy intervention on handwriting. *The American Journal of Occupational Therapy*, 56 (1), 17-25.
- King, G., McDougall, J., Tucker, M.A., Gritzan, J., Malloy-Miller, T., Alambets, P., Cunning, D., Thomas, K., & Gregory, K. (1999). An evaluation of functional, school-based therapy services for children with special needs. *Physical and Occupational Therapy in Pediatrics*, 19(2), 5-29.
- Lamoureux EL., Pallant JF, Pesudovs K, Rees G, Hassell JB, Keeffe JE., The effectiveness of low-vision rehabilitation on participation in daily living and quality of life, *Invest Ophthalmol Vis Sci.* 2007, 48(4):1476-82.

Pitrou I., Well-being of patients with dementia and their caregivers after a biobehavioral home-based intervention, JAMA. 2010, 304(22):2482-3.

Kirshner HS., A biobehavioral intervention improved caregiver well-being and some measures of functioning in patients with dementia, Ann Intern Med. 2010, 153(12):JC6-4.

Gitlin LN., Winter L, Dennis MP, Hodgson N, Hauck WW., A biobehavioral home-based intervention and the well-being of patients with dementia and their caregivers: the COPE randomized trial, JAMA. 2010, 304(9):983-91.

Clark F., Jackson J, Carlson M, Chou CP, Cherry BJ, Jordan-Marsh M, Knight BG, Mandel D, Blanchard J, Granger DA, Wilcox RR, Lai MY, White B, Hay J, Lam C, Marterella A, Azen SP., Effectiveness of a lifestyle intervention in promoting the well-being of independently living older people: results of the Well Elderly 2 Randomised Controlled Trial, J Epidemiol Community Health. 2012, 66(9):782-90.

Clark F., Azen S. P., Zemke R., Jackson J., Carlson M., Occupational Therapy for Independent-Living Older Adults A Randomized Controlled Trial, JAMA. 1997;278(16):1321-1326.

McClure MK., McClure RJ, Day R, Brufsky AM., Randomized controlled trial of the Breast Cancer Recovery Program for women with breast cancer-related lymphedema, Am J Occup Ther. 2010, 64(1):59-72.

Hastings J., Gowans S., Watson D.E., Effectiveness of occupational therapy following organ transplantation, Can J Occup Ther. 2004 Oct;71(4):238-42.

Needham DM., Mobilizing patients in the intensive care unit: improving neuromuscular weakness and physical function, JAMA. 2008, 300(14):1685-90.

Schweickert W. D., Pohlman M. C., Pohlman, A. S., Nigos C., Pawlik A. J., Esbrook C. L., Spears L., Early physical and occupational therapy in mechanically ventilated, critically ill patients: a randomised controlled trial, The Lancet, 2009, Volume 373, No. 9678, p. 1874–1882.

Maitra K., Hall C., Kalish T., Anderson M., Dugan E., Rehak J., Rodríguez V., Tamas J., Zeitlin D., Five-year retrospective study of inpatient occupational therapy outcomes for patients with multiple sclerosis, *Am J Occup Ther.* 2010 Sep-Oct;64(5):689-94.

Steultjens, E.M.J., Dekker, J., Bouter, L.M., Leemrijse, C.J., Ende, C.H.M. van den, Evidence of the efficacy for occupational therapy in different conditions: an overview of systematic reviews, *Clinical Rehabilitation*: 19, 2005, nr. 3, p. 247-254

Effectiveness of Occupational Therapy in Patients With Rheumatoid Arthritis(RCT), 2006 <https://clinicaltrials.gov/ct2/show/NCT00400868>

Cochrane Database of Systematic Reviews: Plain Language Summaries [Internet]. Occupational therapy for rheumatoid arthritis This version published: 2008; Review content assessed as up-to-date: November 17, 2003. <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0011823/>

Li LC, Davis AM, Lineker SC, Coyte PC, Bombardier C., Effectiveness of the primary therapist model for rheumatoid arthritis rehabilitation: a randomized controlled trial, *Arthritis Rheum.* 2006 Feb 15;55(1):42-52.

Jianu, A. i Macovei, S. (2012). The occupational therapy impact on the recovery of convalescent elderly people after an acute myocardial infarction. *Palestrica of the third millennium, Civilization and Sport*, 13 (1), 23–26.

Rapoliene J, Krisciūnas A., The effectiveness of occupational therapy in restoring the functional state of hands in rheumatoid arthritis patients, *Medicina (Kaunas)*. 2006;42(10):823-8.

Legg L, Drummond A, Langhorne P (2009), Occupational therapy for patients with problems in activities of daily living after stroke (Review) The Cochrane Collaboration and published in The Cochrane Library 2009, Issue 1.

Sturkenboom IHWM, Thijssen MCE, Gons-van Elsacker JJ, Maasdam A, Schulten M, Vijver-Visser D, Steultjens EJM, Bloem BR, Munneke M: Ergotherapie bij de ziekte van Parkinson, een richtlijn van Ergotherapie Nederland. Utrecht/Den Haag, Ergotherapie Nederland/Uitgeverij Lemma; 2008. OpenURL

Sturkenboom IHWM, Thijssen MCE, Gons-van Elsacker JJ, Maasdam A, Schulten M, Vijver-Visser D, Steultjens EJM, Bloem BR, Munneke M: Guidelines for occupational therapy in Parkinson's disease rehabilitation. Nijmegen/Miami: ParkinsonNet/NPF; 2012.

[online pdf <http://www.parkinson.org/Search-Pages/Search.aspx?pKeywords=guidelines> website]

PubMed Abstract | Publisher Full Text OpenURL

Ellis T, Katz DI, White DK, DePiero TJ, Hohler AD, Saint-Hilaire M: Effectiveness of an inpatient multidisciplinary rehabilitation program for people with Parkinson disease, *Phys Ther* 2008, 88:812-819. PubMed Abstract | Publisher Full Text OpenURL

Tickle-Degnen L, Ellis T, Saint-Hilaire MH, Thomas CA, Wagenaar RC: Self-management rehabilitation and health-related quality of life in Parkinson's disease: a randomized controlled trial, *Mov Disord* 2010, 25:194-204. PubMed Abstract | Publisher Full Text | PubMed Central Full Text OpenURL

Wade DT, Gage H, Owen C, Trend P, Grossmith C, Kaye J: Multidisciplinary rehabilitation for people with Parkinson's disease: a randomised controlled study, *J Neurol Neurosurg Psychiatry* 2003, 74:158-162. PubMed Abstract | Publisher Full Text | PubMed Central Full Text OpenURL

Trend P, Kaye J, Gage H, Owen C, Wade D: Short-term effectiveness of intensive multidisciplinary rehabilitation for people with Parkinson's disease and their carers, *Clin Rehabil* 2002, 16:717-725. PubMed Abstract | Publisher Full Text OpenURL

Guo L, Jiang Y, Yatsuya H, Yoshida Y, Sakamoto J: Group education with personal rehabilitation for idiopathic Parkinson's disease, *Can J Neurol Sci* 2009, 36:51-59. PubMed Abstract | Publisher Full Text OpenURL

Sturkenboom I. H. W. M., Graff M. J., Borm G. F., Adang E. M. M., Nijhuis-van der Sanden M. W. G., Bloem B. R. and Munneke M., Effectiveness of occupational therapy in Parkinson's disease: study protocol for a randomized controlled trial, *Trials* 2013, 14:34

Whalen S. S. , Can Child Centre for Childhood Disability Research Effectiveness of Occupational Therapy In the School Environment, 2003. <http://www.canchild.ca/en/canchildresources/effectivenessofot.asp#>

Miller, L. J., Coll, J. R., & Schoen, S. A. (2007). A randomized controlled pilot study of the effectiveness of occupational therapy for children with sensory modulation disorder. *American Journal of Occupational Therapy*, 61, 228–238.

Petruseviciene D. , Krisciūnas A., Evaluation of activity and effectiveness of occupational therapy in stroke patients at the early stage of rehabilitation. *Medicina (Kaunas)*. 2008;44(3):216-24.

Petruseviciene D., Krisciūnas A., Influence of factors on occupational therapy efficiency for patients after stroke, *Medicina (Kaunas)*. 2005;41(4):320-4.

Anderson, C., Mhurchu, C., Rubenach, S., Clark, M., Spencer, C., & Winsor, A. (2000). Home or hospital for stroke rehabilitation? Results of a randomized controlled trial II: Cost minimization analysis at 6months. *Stroke*, 31, 1032-1037.

Griffiths, T., Phillips, C., Davies, S., Burr, M., & Campbell, I. (2001). Cost effectiveness of an outpatient multidisciplinary pulmonary rehabilitation programme. *Thorax*, 56, 779–784.

Hay J., LaBree L., Luo R., Clark F., Carlson M., Mandel D., Zemke R., Jackson J., Azen S.P., Cost-effectiveness of preventive occupational therapy for independent-living older adults, *J Am Geriatr Soc*, 2002, 50(8):1381-8.