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# Abstract

The important interaction between emotional well-being and physical health has long been recognised, particularly the benefits of laughter and happiness to duration and quality-of-life. The evidence for the benefits of therapeutic clowning in paediatric practice is increasing exponentially year-on-year, especially its use as a substitute or adjunct to medication for procedures or investigations that are either frightening or painful.

Elderly people and children share many characteristics including dependency on others and a fear of strange environments and they often lack the ability to fully participate in complex decision-making, this being particularly true for people with dementia.

Clowning in paediatric care is generally short-term and largely uses interactive methods to engage and distract the child during medical care, whereas clowning in elderly care often occurs may occur over a longer period of time to enable the individual to adjust to new circumstances.

Elder clowns interact with older people using historically appropriate improvisation, music and storytelling which calms and reinforces their cognitive function, connection with their surroundings and other people resulting in an improved quality of life.

This review examines the evidence base for therapeutic clowning with children and the elderly and concludes that there is future potential for therapeutic clowning in residential and hospital settings for older people, but further research is required to understand what works best to create a sustainable service that is cost-effective.

Keywords: Clowning, therapeutic clowning, clown doctor, paediatric, elderly, literature review

# **INTRODUCTION**

The importance of holistic person centred care, which integrates emotional health and physical health, has long been recognised and is increasingly being endorsed in health policy around the world. Research supports the health benefits of humour and laughter for the young and old, sick and healthy and although the benefits of clowning have been known for some time, it is only recently that these have started to be quantified using rigorous research methodologies.

Clowning aims to improve quality of life through a combination of comedy, juggling, magic, mime, story-

telling and music but evaluation is challenging since it is a complex multimodal intervention tailored to the individual (Finlay 2014). However, an understanding of the biological mechanisms of clowning is now beginning to be supported by studies demonstrating the therapeutic potential of laughter on physiological systems, in particular on the psycho-neuro-endocrineimmuno axis. This interaction between emotional well-being, endocrine regulation and immunological function, mediated through neurotransmitters, hormones and cytokines may provide valuable insights into inflammation, disease development, healing and ageing in the future and appears to support well-

established anecdotal statements such as "happy people live better and longer" (Courtemanche 2006) and "laughter is the best medicine" (Penson 2005).

This paper reviews types of clowning and the role of the clown in healthcare settings, looking specifically at clowns working with children and older people.

# **Types of Clowning**

Clown type figures have a long tradition with documented evidence for their role as a "Jester" figure in Egyptian, Greek, Chinese, Roman and mediaeval Europe cultures. The first documented court jester, or fool, was a pygmy in the court of Pharoah Dadkeri-Assi in ancient Egypt's fifth dynasty (Towson 1976). In ancient Greece these comics were often baldheaded and padded to appear larger than normal, as they performed secondary roles in farces and mime, parodying the actions of more serious characters. In Roman times the clown wore a pointed hat and a patchwork colourful robe and was the target for tricks and abuse (Disher 1925, Newton 1958, Hugill 1981).

The term "clown", perhaps derived from the Scandinavian word "cloyne" or "clumsy person", started to appear in the 1500s and was used to describe foolish characters in Shakespearean plays. The term evolved to mean the professional fool or habitual Jester by the mid-1600s.

Modern clowns are associated with the tradition of the circus clown which developed from earlier comedic theatre roles during the 19<sup>th</sup> centuries, Joseph Grimaldi (1778-1837) being the first recognizable ancestor of the modern clown.

Many types of clown are now recognised including white-face clowns - the 'classic' clown; Auguste clown the zaniest of the clowns with pink, red or tan makeup with outlined features and gaudy, mismatched, oversized colourful costumes and exaggerated footwear; and character clowns who often adopt an eccentric character such as a police officer, a tramp or hobo.

# **CLOWNING AND HEALTHCARE**

The earliest use of clowns in hospital settings is not well documented, but it is known that clowns worked in hospitals at the time of Hippocrates (Koller 2008) and that the Fratellini Brothers, a famous clown trio, worked in French hospitals at the beginning of the 19th century (Warren 2013). The first published paper referenced in PubMed relating to clowns dates back to 1969 and their use in dental health education (Hayford 1969); but it was not until 1998, when the film Patch Adams portrayed the life and philosophy of Dr. Hunter Doherty Adams, that the medical world awoke to the therapeutic potential of clowning. Adams put on a red nose as he worked in hospitals believing that humour and laughter created an atmosphere of trust and love between staff and patients (Adams 1994, Adams 1998). Hospital clowning has since grown steadily with clowns now working throughout the world. The Big Apple Circus Clown Care Unit operates in many children's hospitals across the USA, the Theodora Foundation sponsors clowns in Europe, Africa and Asia, the Humour Foundation Clown Doctor Program operates in Australia, Le Rire Medecin (Laughing Doctors) are found in France, with Clowns without Borders operating from South Africa.

Clowns work with both children and adults in various settings including hospital wards; burns, dialysis and oncology units; fertility clinics and emergency departments; and residential and nursing homes, with the impact of their work being experienced by patients, their families and health care professionals.

Clowning has been shown to have an impact on medical conditions, clinical interventions and the functioning of health care teams, with the effect being dependent upon the clowning interventions used, the individuals involved, their age and the environment.

# **CLOWN ATTRIBUTES AND TRAINING**

Clowns are selected for their personal qualities such as communication skills, compassion and empathy. They have various titles including medical clown, clown doctor, elder clown, dream doctor, therapeutic clown or hospital clown (Dvory 2016, Warren 2011). Their name may reflect either their target audience or whether they regard their work primarily as therapeutic, working as an integral member of the multidisciplinary team, or whether they regard themselves primarily in an artistic role, coming from the world of entertainment (Bornstein 2008). In fact many view their work as a balance between both approaches – a blend of artist and health care worker (Warren, 2011).

Some clowns work in pairs to reduce the pressure on patients to participate, whereas other clowns work alone developing a trusting relationship with

patients over a period of time, which is important for therapeutic effectiveness (Linge 2008, Nuttman-Schwartz 2010). It is important for clowns to establish their role and boundaries within each setting as ambiguity in role definition may result in confusion for the clown, healthcare staff and patients. It is important to preserve their uniqueness and role while simultaneously making them part of the team (Nuttman-Schwartz 2010).

Clowns follow the code of conduct of the setting they are working in, with a particular focus on hygiene, safety, and confidentiality. They must safeguard the physical, psychosocial, and spiritual well-being of each individual, regardless of their gender, age, religion, illness, or disability (Dionigi 2017).

## LEARNING FROM THE PAEDIATRIC LITERATURE

Numerous studies, including randomised control trials, support the use of therapeutic clowning in paediatric practice, including clowning on children's wards, emergency departments (Wolyniez 2013, Meiri 2017), intensive care units (Mortamet 2018), rehabilitation units (Kingsnorth 2011), outpatient departments and hospices, with studies also demonstrating their value in improving adjustment in disaster areas and refugee camps (Ilan 2018).

Clown interventions have been shown to reduce pain and anxiety in children undergoing procedures as an alternative to sedation (Dvory 2016, Fernandes 2010, Ofir 2015, Meiri 2008, Zhang 2017) and is benficial during the induction of anaesthesia (Vagnoli 2005, 2010, Yip 2009, Golan 2009). Clowns promote cooperation via therapy and diversion (Nuttman, Schwartz 2010) and clowning has been shown to be beneficial during minor surgery (Canto 2008, Meisel 2009), during uncomfortable procedures, for example, intra-articular injections, botulinum toxin injections (Ben-Pazi 2017), and allergy prick skin testing (Weintraub 2014, Goldberg 2014) or sexual abuse examinations (Tener 2010, 2012). More recently it has been shown that Clown may benefit children hospitalised for respiratory disorderd (Bertini 2011) and more recently it has been shown that clowns may improve the performance of spirometry among preschool children (Nir 2018).

For children in hospital clowns create 'joy without demands' (Linge 2011), providing a magical safe area with the lighter side of life taking precedence (Linge 2013). Although opportunities for play may be limited in hospital settings, clowns may help overcome this (Finlay 2017). Children report that clowns help make their hospital stay fun and parents say that clowns help children focus on something other than their illness (Glasper 2007). Clowns have also been shown to reduce parental anxiety levels (Fernandes 2010, Goldberg 2014, Gilboa-Negari 2017).

A study in the community has shown that clowns may help children with ASD interact with their normally developing peers, improving their ability to communicate and form personal connections and handle sensory overload (Arutz Sheva 2017). Ankan (2018) conducted a study to determine the effect of therapeutic clowning on hand washing technique and microbial colonization in preschool children. The microbial growth was  $\leq 10^3$  in 68.9% and  $> 10^3$  in 31.1% of the subjects in the experimental group, compared to  $\leq 10^3$  in 34.3% and  $> 10^3$  in 65.7% of the control group, the difference being statistically significant. The authors conclude that paediatric healthcare professionals could use entertaining methods such as those involving clowns to teach children hygienic hand washing techniques.

Although most children find clowns funny, some are scared of clowns – refered to as coulrophobia or ballatrophobia. This may be due to a previous traumatic encounter or because circus clowns often wear loud clothing and make up, but therapeutic clowns generally wear minimal make up with a red nose. A recent study looking at the prevalence of fear of clowns in the general paediatric hospitalized population, found it was 1.2%, with a significant predominance of girls - 85.7% (Meiri 2017).

# **STUDIES INVOLVING STAFF AND TEAMS**

Studies have also been conducted to examine the clown's role within the medical team and their impact on staff as well as patients and their families (Scheyer 2008). Clowns have been found to improve communication between parents and clinicians and within clinical teams. Amongst staff, humour can cultivate teamwork, improve morale and motivation, increase productivity, enhance problem solving, ease distress in difficult situations, reduce negative moods, and create a positive work culture with more enthusiasm and greater job satisfaction (Warren 2011, Blain 2012, Chenoweth 2014). Clowns may help to improve staff morale and motivation, and enable staff members to 'let off steam' (Nuttman-Schwartz 2010), with their playful, improvisational and light-hearted approach (Warren 2011, Dionigi 2016).

## **LEARNING FROM THE ELDERLY LITERATURE**

Research has shown that some older people may live longer, experience a better quality of life and be more satisfied with their physical health if they use humour as a way of coping with the challenges of aging (Warren 2011). Elder-clown programmes have been developed to work specifically with older people and may address some of these needs, especially for those with dementia (Warren, 2011). Elder clown programmes include the Hearts and Minds Elderflower program in Scotland, Fools for Health and the Jovia Foundation in Canada, MiMakkus in the Netherlands and the Big Apple Vaudeville Caravan in USA.

The elder clown interacts with individuals through improvisation, music, dance and drama which empowers, calms and strengthens the patient while reinforcing the patient's connection with their surroundings and contributes to an improved quality of life (Raviv, 2014). Clowns encourage interaction, engagement and connection with people and they create humorous moments and use stories to stimulate memory and cognitive functioning, engaging each resident on a personal level, with a positive effect on both verbal and non-verbal social interaction (Warren 2011, Rämgård 2016). They do not infantilise those with dementia but empower, honour and delight them (Symons 2012).

Elder clowns generally work with people in residential homes or nursing homes where the residents are usually up and about rather than being confined to bed like those on many hospital wards. Clowns may visit residents individually in their own rooms, or they may entertain small groups in communal areas, such as a living room or the dining room. These clowns do not wear outlandish clothes or loud make-up and they perform in softer, subtler ways than their circus counterparts (Warren, 2011).

Elder clowns work with the health-care team, obtaining information about individual's medical and psychosocial condition, their life-history, interests and abilities prior to meeting them. Clowns use this information, along with meaningful objects in the environment and sensory triggers, to tailor their approach and engage individual residents (Warren 2011, Rämgård 2016). Clowns work in culturally responsive ways to strengthen individuals sense of self (Rämgård 2016) and they may help individuals connect with their past stepping into their bygone era

by putting together an individual "package" dating back to times the elder person relates to including dress, music, news and relationships. However their work is not about merely reminiscing, it is also about being in the moment and connected to the present (Symons 2012).

Clowns may ask residents to give them one piece of life advice, to tell them a story about a picture on their wall to initiate interaction, and then by 'acting foolish' or misunderstanding instructions residents have the opportunity to tell clowns what to do, giving the resident a sense of control and autonomy (Warren, 2011).

The efficacy of elder-clown programmes in dementia care has been demonstrated in a number of studies. Low et al (2013) conducted a study in Sydney with 189 residents in 17 nursing homes receiving weekly elder-clown visits over a 9-12 week period, with 209 residents in 18 homes receiving normal care. Levels of agitation were significantly reduced in the intervention group compared with controls over a 26 week period, although levels of depression did not alter significantly. A study by Kontos (2014) found twice weekly visits from a pair of clowns, over a 12 week period, reduced moderate to severe behavioural and psychological symptoms of dementia in nursing home residents.

A pilot study on the work of miMakkus, a special method of clowning for people living with advanced staged dementia, also showed a lasting improvement in the wellbeing in those who received a 45-60 minute intervention (Symons 2012, Hendriks 2012). Guidelines recommend non-pharmacological interventions before medication to control agitation in dementia patients and the use of humour may be an effective complementary and alternative intervention in the treatment of dementia patients (Takeda 2010).

By working with staff the benefits of clowning can be continued and developed in-between clown sessions with care staff incorporating performance principles into their daily work (Symons 2012). Clowns may also relieve visitors of the burden that accompanies prolonged visits with relatives (Nuttman-Schwartz 2010). Although families may initially be sceptical about clowns, they are often won over when they see them interacting with their loved ones (Symons 2012).

# **DISCUSSION**

Clowns give everyone permission to find the silly in the serious, or the funny in the frightening, introducing a sense of levity into day to day life.

While Patch Adams used to clowning in a variety of clinical settings, the majority of research has been undertaken with children and families largely in paediatric healthcare settings (Dionigi 2016). However elderly people, particularly those with dementia, may share many characteristics with children including being dependent on others, fearful of strange environments and lacking the ability to fully participate in complex decision-making. Both children and the elderly may have to undergo invasive examinations, unfamiliar and potentially painful procedures and rehabilitation post injury, and there is therefore potential to undertake further studies in the elderly population. There are however significant differences between the elderly and children including disease profile, comorbidities, metabolism and life experience. Clowning techniques therefore need to be adapted to individuals and their personal circumstances. Elderly clowns may 'live in the moment' (Symons 2012) but also connect with the past, and the evidence suggests this may contribute to positive health outcomes.

Many elderly people are prescribed psychotropic medication and there may well be an economic benefit for substituting pharmacological interventions with clowning, especially if reduction in medication results in fewer falls and other unintended side-effects or drug interactions. Clown interventions boost morale with practically no side effects (Barkmann 2013).

Rigorous evaluation of the therapeutic effect of clowning is complex (Finlay 2014). No cost effectiveness studies appear to have been undertaken in relation to clowning for elderly people. Although the long-term benefits may be difficult to evaluate due to confounding factors and the time it takes to achieve change, some effects should be measurable using standardised psychometric scales, biological markers or scales relating to activities of daily living (Ford 2014).

# CONCLUSION

The benefits of 'clowning around' are increasingly evident with a number of studies showing benefit in a variety of settings, different clinical conditions and particularly for procedures that cause stress and anxiety. Although the majority of randomised controlled trials published involve children, there is an evolving literature demonstrating benefits in the elderly and those with dementia, with an improvement in communication skills, connection with the environment, levels of anxiety and quality of life. Qualitative studies also show that clowning interventions appear to be beneficial for relatives and may improve communication and functioning within the health-care team.

More research, particularly economic studies, are required to both inform current practice and help to secure funding for successful and sustainable evidence-based interventions and further substantiate the claims that 'humour is the universal panacea'.

# REFERENCES

- [1] Adams P. (1994) The best medicine. Interview by Jim Montague. Hosp Health Netw. 68(14), 6-7.
- [2] Adams P, Mylander M. (1998) Gesundbeit! Rochester, VT: Healing Arts Press.
- [3] Arıkan D, Gürarslan Baş N, Kurudirek F, Baştopcu A, Uslu H. The Effect of Therapeutic Clowning on Handwashing Technique and Microbial Colonization in Preschool Children. J Nurs Scholarsh. 2018;50(4):441-450.
- [4] Arutz Sheva Staff. New research shows medical clowns can help autistic kids. http:// www.israelnationalnews.com/News/News. aspx/223106. Accessed 06/08/2018.
- [5] Barkmann C, Siem A, Wessolowski N, Schulte-Markwort M. Clowning as a supportive measure in paediatrics - a survey of clowns, parents and nursing staff. BMC pediatr 2013;13:166.
- [6] Ben-Pazi H, Cohen A, Kroyzer N, Lotem- Ophir R, Shvili Y, Winter G, Deutsch L. Clown-care reduces pain in children with cerebral palsy undergoing recurrent botulinum toxin injections- A quasirandomized controlled crossover study. PLoS One. 2017; 12(4): e0175028.
- [7] Bertini M, Isola E, Paolone G, Curcio G. 2011 Clowns Benefit Children Hospitalized for Respiratory Pathologies. Evidence-Based Complementary and Alternative Medicine Evid Based Complement Alternat Med. 2011; 2011: 879125.

- [8] Blain S, Kingsnorth S, Stephens L, McKeever P. Determining the effects of therapeutic clowning on nurses in a children's rehabilitation hospital. Arts & Health 2012;4(1):26-38.
- [9] Bornstein Y. Medical clowns at hospitals and their effect on hospitalized children. Harefuah. 2008:147(1):30-2.
- [10] Cantó MA, Quiles JM, Vallejo OG, Pruneda RR, Morote JS, Piñera MJ, Carmona GZ, Fuentes MJ, Collado IC, Barón C. Evaluation of the effect of hospital clown's performance about anxiety in children subjected to surgical intervention. Cir Pediatr. 2008; 21(4):195-8.
- [11] Chenoweth L, Low L, Goodenough B, Liu Z, Brodaty H, Casey A, et al. Potential benefits to staff from humor therapy with nursing home residents. J Gerontol Nurs 2014;40(2):47.
- [12] Courtemanche G. A Good Death. Publisher: Douglas McIntyre 2006.
- [13] Dionigi A. Clowning as a Complementary Approach for Reducing Iatrogenic Effects in Pediatrics. AMA J Ethics. 2017;19(8):775-782.
- [14] Dionigi A, Canestrari C. Clowning in Health Care Settings: The Point of View of Adults. Eur J Psychol. 2016;12(3):473-88.
- [15] Disher MW. Clowns and Pantomimes. Publ. Constable, 1925.
- [16] Dvory A, Goshen Y, Ruimi S, Bikov S, Halevy , Koren. Dream Doctor Intervention Instead of Sedation: Performing Radionuclide Scanning Without Sedation in Young Children: A Study in 142 Patients. J Altern Complement Med. 2016;22(5):408-12.
- [17] Fernandes SC, Arriaga P. The effects of clown intervention on worries and emotional responses in children undergoing surgery. J Health Psychol. 2010;15(3):405-15
- [18] Finlay F, Baverstock A, Lenton S. Therapeutic clowning in paediatric practice. Clin Child Psychol Psychiatry. 2014;19(4):596-605.
- [19] Finlay F, Baverstock A, Lenton S. Therapeutic clowning in hospital settings: more than a play-fool proposal. Arch Dis Child. 2017;102(7):597-598.

- [20] Ford K, Courtney-Pratt H. Tesch L, Johnson C. (2014). More than just clowns – Clown doctor rounds and their impact for children, families and staff. Journal of Child Health Care. 2014;18(3):286-296.
- [21] Foster F. Clowning Through. Publisher: Heath Cranton 1937.
- [22] Gilboa-Negari Z, Abu-Kaf S, Huss E, Hain G. A cross-cultural perspective of medical clowning: comparison of its effectiveness in reducing pain and anxiety among hospitalized Bedouin and Jewish Israeli children. J Pain Res. 2017;10:1545-1552.
- [23] Glasper A, Battrick C, Prudhoe G, Weaver K. Service evaluation of clown doctor humour in one English Children's Hospital. 2007.
- [24] Golan G, Tighe P, Dobija N, Perel A, Keidan I. Clowns for the prevention of preoperative anxiety in children: a randomized controlled trial. Paediatr Anaesth. 2009;19(3):262-6.
- [25] Goldberg A, Stauber T, Peleg O, Hanuka P, Eshayek L, Confino-Cohen R. Medical clowns ease anxiety and pain perceived by children undergoing allergy prick skin tests. Allergy. 2014;69(10):1372-9.
- [26] Hayford F. Dental health education with a clown. Dent Health (London). 1969 Apr-Jun;8(2):35-6.
- [27] Hendriks R. Tackling Indifference—Clowning, Dementia, and the Articulation of a Sensitive Body. Medical Anthropology: Cross-Cultural Studies in Health and Illness 2012;31(6):459-476.
- [28] Hugill B. Bring on the clowns. Publisher: Book Sales, 1981.
- [29] Ilan U, Davidov A, Mendlovic J, Weiser G. Disaster zones-should we be clowning around? Eur J Pediatr. 2018 Feb;177(2):247-249.
- [30] Kingsnorth S, Blain S, McKeever P. Physiological and emotional responses of disabled children to therapeutic clowns: a pilot study. Evid Based Complement Alternat Med:2011;2011:732394-10.
- [31] Koller D, Gryski C. The life threatened child and the life-enhancing clown: towards a model of therapeutic clowning. Evid Based Complement Alternat Med. 2008;5(1):17-25.

- [32] Kontos P, Miller KL, R, Palma Lazgare LI, Binns M, Low LF Surr C, Naglie G. Elder-Clowning in Long-Term Dementia Care: Results of a Pilot Study. J Am Geriatr Soc. 2016;64(2):347-53.
- [33] Linge L. Hospital clowns working in pairs in synchronized communication with ailing children. International Journal of Qualitative Studies on Health and Well-being. 2008;3(1):27-38.
- [34] Linge L. Joy without demands: Hospital clowns in the world of ailing children. Int J Qual Stud Health Well-being. 2011;8:6(1):10.3402/qhw. v6i1.5899.
- [35] Linge L. Joyful and serious intentions in the work of hospital clowns: a meta-analysis based on a 7-year research project conducted in three parts. Int J Stud Health Well-being: 2013;8:1-8.
- [36] Low LF, Brodaty H, Goodenough B, Spitzer P, Bell JP, Fleming R, Casey AN, Liu Z, Chenoweth L. The Sydney Multisite Intervention of LaughterBosses and ElderClowns (SMILE) study: cluster randomised trial of humour therapy in nursing homes. BMJ Open 2013;11:3(1).
- [37] McMahan SC. (2008) Infinite possibility: clowning with elderly people. Care Manag J. 9(1):19-24.
- [38] Meiri N, Ankri A, Hamad-Saied M, Konopnicki M, Pillar G. The effect of medical clowning on reducing pain, crying, and anxiety in children aged 2-10 years old undergoing venous blood drawing--a randomized controlled study. Eur J Pediatr. 2016;175(3):373-9.
- [39] Meiri N, Schnapp Z, Ankri A, Nahmias I, Raviv A, Sagi O, Hamad Saied M, Konopnicki M, PillarG. Fear of clowns in hospitalized children: prospective experience. Eur J Pediatr. 2017;176(2):269-272.
- [40] Meiri N, Ankri A, Ziadan F, Nahmias I, Konopnicki M, Schnapp Z, Itzhak Sagi O, Hamad Saied M, Pillar G. Assistance of Medical Clowns Improves the Physical Examinations of Children Aged 2-6 Years. Isr Med Assoc J. 2017;19(12):786-791.
- [41] Meisel V, Chellew K, Ponsell E, Ferreira A, Bordas L, García-Banda G. (2009) The effect of "hospital clowns" on distress and maladaptive behaviours of children who are undergoing minor surgery. Psicothema. 21(4):604-9.

- [42] Mortamet G, Vinit F, Simonds C, Dupic L, Hubert P. Is there a role for clowns in Paediatric Intensive Care Units? Arch Dis Child. 2017;102(7):672-675.
- [43] Newton D. Clowns. Publisher: George G. Harrap & Co. Ltd. 1958.
- [44] Nir V, Schichter-Konfino V, Kassem E, Klein A. The effect of medical clowns on performance of spirometry among preschool aged children. Pediatr Pulmonol. 2018 Apr 2. doi: 10.1002/ ppul.24003.
- [45] Nuttman-Shwartz O, Scheyer R, Tzioni H. Medical clowning: even adults deserve a dream. Soc Work Health Care. 2010;49(6):581-98.
- [46] Ofir S, Tener D, Lev-Wiesel R, On A, Lang-Franco N. The Therapy Beneath the Fun: Medical Clowning During Invasive Examinations on Children. Clin Pediatr (Phila). 2016;55(1):56-65.
- [47] Penson RT, Partridge RA, Rudd P, Seiden MV, Nelson JE, Chabner BA, Lynch TJ Jr. Laughter: the best medicine? Oncologist 2005;10(8):651-60.
- [48] Rämgård M, Carlson E, Mangrio E. Strategies for diversity: medical clowns in dementia care - an ethnographic study. BMC Geriatr. 2016;16(1):152.
- [49] Raviv A. Humor in the "Twilight Zone": My work as a Medical Clown with patients with dementia. J Holist Nurs. 2014;32(3):226-31.
- [50] Scheyer R, Nuttman-Shwartz O, Ziyoni H. The definition of the medical clown's role with adult patients. Harefuah. 2008;147(1):25-9,95.
- [51] Symons D. A study of elder clown programs in Scotland, the Netherlands, USA and Canada. 2012 Available at https://www.churchilltrust. com.au/media/fellows/2012\_Symons\_David. pdf. Accessed 13/08/2018.
- [52] Takeda M, Hashimoto R, Kudo T, Okochi M, Tagami S, Morihara T, Sadick G, Tanaka T. Laughter and humor as complementary and alternative medicines for dementia patients. BMC Complement Altern Med. 2010;10:28.
- [53] Tener D, Lev-Wiesel R, Franco NL, Ofir S. Laughing through this pain: medical clowning during examination of sexually abused children: an innovative approach. J Child Sex Abus. 2010;19(2):128-40.

- [54] Tener D, Nessa Lang-Franco, Ofir S, Rachel Lev-Wiesel. The Use of Medical Clowns as a Psychological Distress Buffer During Anogenital Examination of Sexually Abused Children. J Loss Trauma 2012;17(1):12-1.
- [55] Townsend JH. 1976 Hawthorn Books Inc. New York.
- [56] Vagnoli L, Caprilli S, Robiglio A, Messeri A. Clown Doctors as a Treatment for Preoperative Anxiety in Children: A Randomized, Prospective Study. Pediatrics 2005;116(4):1013-7.
- [57] Vagnoli L, Caprilli S, Messeri A. Parental presence, clowns or sedative premedication to treat preoperative anxiety in children: what could be the most promising option? Paediatr Anaesth. 2010;20(10):937-43.
- [58] Warren B, Spitzer P. The art of medicine: Laughing to longevity-the work of elder clowns. Lancet 2011;378(9791):562-3.
- [59] Warren B, Spitzer P. Smiles are everywhere: Integrating clown-play into healthcare practice. London, United Kingdom: Routledge, 2013.

- [60] Weintraub Y, Rabinowicz N, Hanuka P, Rothschild M, Kotzki S, Uziel Y. Medical clowns facilitate nitrous oxide sedation during intra-articular corticosteroid injection for juvenile idiopathic arthritis. Isr Med Assoc J. 2014;16(12):771-3.
- [61] Wolyniez I, Rimon A, Scolnik D, Gruber A, Tavor O, Haviv E, et al. The Effect of a Medical Clown on Pain During Intravenous Access in the Pediatric Emergency Department: A Randomized Prospective Pilot Study. Clin Pediatr 2013;52(12):1168-1172.
- [62] Yip P, Middleton P, Cyna AM, Carlyle AV. Nonpharmacological interventions for assisting the induction of anaesthesia in children. Cochrane Database of Systematic Reviews 2009, Issue 3. Art. No.: CD006447. DOI: 10.1002/14651858. CD006447.pub2.
- [63] Zhang Y, Yang Y, Lau WY, Garg S, Lao J. Effectiveness of pre-operative clown intervention on psychological distress: A systematic review and meta-analysis. J Paediatr Child Health. 201;53(3):237-245.

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