

An Experimental Study To Assess The Effectiveness Of Laughter Therapy In The Selected Old Age Home Of New Delhi.

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Abstract

The aging process introduces multifaceted challenges, impacting the physical, emotional, and psychological aspects of individuals. Amidst these challenges, unconventional therapeutic interventions gain prominence. Laughter therapy, explored in the unique context of an old age home in New Delhi, emerges as a captivating avenue to enhance the well-being of elderly residents. The study, rooted in the biopsychosocial model, draws theoretical support from psychology, physiology, and alternative medicine. Laughter therapy, a holistic intervention rooted in joy, is posited to address the diverse dimensions of aging. The research objectives focus on evaluating the therapy's impact on psychological well-being, physiological measures, and social engagement among elderly residents. A purposive sample of 100 participants engaged in laughter therapy sessions, revealing diverse demographics and participation in previous therapies. The eight-week intervention, facilitated by a certified laughter yoga instructor, integrated laughter exercises, deep breathing, and stretching. Statistical analyses unveil significant improvements in psychological measures, including reduced depressive symptoms and increased positive affect. Physiological changes encompass decreased heart rate, blood pressure, and cortisol levels, aligning with laughter's cardiovascular benefits and stress reduction. The correlation matrix underscores the interconnectedness of mental and physical well-being. In conclusion, laughter therapy exhibits a profound positive impact on the holistic well-being of elderly individuals, making a case for its integration into geriatric care. The study's outcomes advocate for innovative approaches in global healthcare, emphasizing laughter therapy's potential to enrich the lives of the elderly. Cultural nuances in the Indian context are acknowledged, contributing to a nuanced understanding of its applicability.

Keywords: laughter therapy, elderly well-being, holistic intervention, geriatric care, psychological and physiological benefits.

Introduction

The aging process is an intricate journey, marked by an array of challenges that encompass the physical, emotional, and psychological dimensions of individuals. As people traverse the later stages of life, they often encounter a myriad of health issues, a gradual loss of independence, and a looming sense of isolation. These factors collectively contribute to a profound impact on their overall well-being. Recognizing the necessity for holistic approaches to address the multifaceted dimensions of aging, researchers have increasingly focused on unconventional therapeutic interventions.

In this evolving landscape, laughter therapy, also known as laughter yoga or laughter meditation, has emerged as a captivating avenue for promoting health and well-being among the elderly. This paper aims to explore the significance of laughter therapy as an intervention, particularly within the context of an old age home in New Delhi. The bustling metropolis, with its unique cultural fabric and diverse population, provides an intriguing backdrop for investigating the potential impact of laughter therapy on the lives of elderly residents.

The study's core objective is to investigate the effectiveness of laughing therapy, evaluating its capacity to enhance not only the mental and emotional well-being but also the physical aspects of the lives of residents at an old age home. The research aims to provide nuanced insights into the applicability and efficacy of laughter therapy in addressing the distinctive challenges faced by the elderly within the communal environment of an old age home.

Laughter therapy, rooted in the philosophy that laughter is a therapeutic and joyous practice, holds promise in mitigating the adversities associated with aging. The philosophy recognizes laughter as more than a mere expression of joy; it is considered a therapeutic practice with potential holistic benefits. The study endeavors to contribute empirical evidence regarding the tangible benefits of laughter therapy, shedding light on its potential to act as a holistic intervention that transcends the conventional boundaries of healthcare for seniors.

The heart of the research lies in the aspiration to expand our understanding of the potential impact of laughter therapy. It aims to unravel the multifaceted ways in which laughter, as a therapeutic tool, can influence the well-being of the elderly. By doing so, the research seeks to pave the way for the integration of such innovative approaches in geriatric care, with the ultimate goal of enriching the lives of the elderly in New Delhi and beyond.

The choice of New Delhi as the study's location adds a layer of significance. The bustling metropolis, characterized by its unique cultural fabric and diverse population, sets the stage for a comprehensive investigation. The cultural nuances intertwined with the challenges of aging in a metropolitan environment provide an intriguing context for understanding the potential impact of laughter therapy. It acknowledges the importance of considering cultural factors in the effectiveness and acceptance of therapeutic interventions among the elderly.

As laughter therapy gains attention, this research positions itself as a pioneer in providing empirical evidence to support its application. The study's design, focusing on a specific demographic within a unique environment, adds depth to the understanding of laughter therapy's practical benefits. By encompassing not only mental and emotional well-being but also delving into the physical aspects, the research takes a holistic approach to geriatric care.

In conclusion, this study serves as a pivotal exploration into the transformative potential of laughter therapy within the specific context of an old age home in New Delhi. It reflects a growing acknowledgment of the need for holistic and unconventional interventions to address the challenges posed by the aging process. Laughter therapy emerges as a promising avenue, rooted in a philosophy that recognizes the therapeutic essence of laughter. The research aspires to contribute not only to academic discourse but, more importantly, to the enhancement of the quality of life for the elderly. As we navigate the complexities of aging, laughter therapy stands as a beacon of joy and well-being, transcending boundaries to enrich the lives of the elderly in New Delhi and beyond.

Theoretical Framework

Laughter therapy draws its theoretical foundation from various disciplines, including psychology, physiology, and alternative medicine. One prominent theoretical framework is the biopsychosocial model proposed by Engel (1977), which emphasizes the interconnectedness of biological, psychological, and social factors in influencing health outcomes. The psychological aspect of laughter therapy aligns with the positive psychology movement, advocating for the cultivation of positive emotions to enhance well-being (Seligman & Csikszentmihalyi, 2000). Additionally, the physiological benefits of laughter, such as improved cardiovascular health and stress reduction, align with research in psychoneuroimmunology (PNI) (Cousins, 1979). Integrating these theoretical perspectives, laughter therapy is posited to have a multifaceted impact on the well-being of older adults.

Significance of the Study

The growing elderly population worldwide necessitates innovative approaches to address their unique healthcare needs. New Delhi, being a vibrant metropolis with a diverse population, offers a distinctive setting to explore the impact of laughter therapy in an old age home. By conducting this study, we hope to contribute valuable insights into the practical applications of laughter therapy for the elderly, potentially influencing healthcare practices and interventions globally. Moreover, cultural nuances may influence the acceptance and efficacy of laughter therapy among the elderly.

Objectives

The primary objective of this research is to assess the effectiveness of laughter therapy in improving the mental, emotional, and physical well-being of residents in a selected old age home in New Delhi. Specifically, the study aims to:

1. To assess the physiological measure and psychological well-being of the respondents.
2. To study the pre and post of difference between physiological measure and psychological well-being.
3. To delineate the relationship between psychological well-being and physiological measures.

Material and Methods

Sample Area

An old age home in New Delhi was selected for this research and chosen for its diverse resident population and cultural dynamics. The old age home provides a suitable setting to investigate the impact of laughter therapy in a communal living environment, capturing the unique challenges and opportunities faced by elderly individuals in this specific context.

Sample Size

Respondents of the study were selected using a purposive sampling approach. The sample size comprised 100 elderly residents (aged 60 and above) who voluntarily agreed to participate in the laughter therapy sessions. This sample size was deemed adequate for a robust analysis, allowing for a comprehensive exploration of the effectiveness of laughter therapy within the chosen old age home.

Intervention

The laughter therapy intervention consisted of regular sessions conducted by a certified laughter yoga instructor. The sessions, held three times a week for a duration of 45 minutes each, included a combination of laughter exercises, deep-

breathing techniques, and gentle stretching. The intervention period spanned eight weeks, providing a sufficient time frame to observe any discernible changes in the participants' well-being.

Data Collection

1. Psychological Well-being: To assess psychological well-being, standardized psychological assessment were administered at the beginning and end of the intervention period.
2. Physiological Measures: Physiological changes were monitored through pre and post-intervention measurements of key indicators such as heart rate, blood pressure, and cortisol levels. These measures were collected by trained healthcare professionals to ensure accuracy and consistency.
3. Social Engagement: The social dynamics and community-building potential of laughter therapy were qualitatively assessed through structured interviews and participant observations, providing valuable insights into the participants' social interactions and sense of community.

Statistical Analysis

Quantitative data were analyzed using appropriate statistical methods. Paired t-tests were employed to compare pre and post-intervention scores for psychological assessments and physiological measures. The statistical significance level was set at $p < 0.05$ to determine the effectiveness of laughter therapy.

Scale Used

The “Geriatric Depression Scale” (GDS) and the “Positive and Negative Affect Schedule” (PANAS) were utilized to measure psychological well-being. The social engagement aspect was evaluated through qualitative analysis, utilizing thematic coding and content analysis of interview transcripts and observational notes.

This comprehensive methodology ensured a rigorous exploration of the impact of laughter therapy on the mental, emotional, and physical well-being of elderly residents within the selected old age home in New Delhi. The integration of both quantitative and qualitative measures aimed to provide a holistic understanding of the potential benefits of laughter therapy in the context of geriatric care.

Result and Discussion

Table 1: Demographical characteristics & Background characteristics of study participants at the old age home.

Characteristics	Frequency (n)	Percentage (%)
Age (in years)		
- 60-65	25	25
- 66-70	30	30
- 71-75	20	20
- 76 and above	25	25
Gender		
- Male	40	40
- Female	60	60
Marital Status		
- Single	15	15
- Married	70	70
- Widowed	15	15
Educational Background		
- Primary School	10	10
- Secondary School	30	30

- College/University	50	50
- Postgraduate	10	10
Length of Stay in Old Age Home		
- Less than 1 year	25	25
- 1-5 years	45	45
- More than 5 years	30	30
Participation in Previous Therapies		
- Yes	60	60
- No	40	40

The demographic profile of participants in this study reflects a diverse cohort of elderly individuals residing in the selected old age home in New Delhi. The age distribution is fairly balanced, with approximately 30% of participants falling within the 66-70 and 71-75 age brackets, indicating a representation of individuals in varying stages of the elderly spectrum. The gender distribution reveals a slight majority of female participants (60%), aligning with global trends where women often outnumber men in old age populations (World Population Ageing 2019). Marital status diversity is evident, with a significant portion being married (70%) and a notable proportion being widowed (15%). The educational background showcases a range of educational attainment, with 50% having attended college or university, suggesting a relatively well-educated participant group.

Considering the length of stay in the old age home, a substantial percentage (45%) have been residents for 1-5 years, indicating a degree of familiarity and acclimatization to the communal living environment. A noteworthy observation is the participation in previous therapeutic interventions, with 60% of participants reporting prior engagement. This finding aligns with existing research emphasizing the importance of considering individuals' previous experiences with therapeutic interventions, as these may influence their receptiveness and responsiveness to new interventions (Lukas, 2017).

While this demographic snapshot provides a foundation for understanding the participant group, the study acknowledges the need to delve deeper into these factors during the analysis phase. Exploring potential correlations between demographic variables and the outcomes of laughter therapy can offer nuanced insights into the differential impact of this intervention across diverse profiles within the elderly population. Such considerations are crucial in tailoring interventions to the unique needs and characteristics of elderly individuals, contributing to the development of more effective and personalized geriatric care strategies.

Table 2: Effectiveness of Laughter Therapy: Pre- and Post-Intervention Measures in Elderly Residents

Measures	Pre-Intervention (Mean ± SD)	Post-Intervention (Mean ± SD)	Paired t-Value	p-Value
Psychological Well-being				
- Geriatric Depression Scale	12.45 ± 3.21	9.78 ± 2.45	4.62	< 0.001
- PANAS Positive Affect	25.76 ± 4.89	29.14 ± 5.32	-3.28	< 0.01
- PANAS Negative Affect	15.32 ± 3.56	11.87 ± 2.98	5.19	< 0.001
Physiological Procedures				
- Heart Rate	75.22 ± 8.13	72.18 ± 7.45	2.89	< 0.05
- Cortisol Levels	2.56 ± 0.62	2.12 ± 0.48	6.45	< 0.001
- Blood Pressure (Diastolic)	80.54 ± 6.78	78.21 ± 7.32	2.18	< 0.05
- Blood Pressure (Systolic)	130.45 ± 10.32	125.76 ± 9.87	3.76	< 0.001

The paired t-test results in Table 2 reveal significant changes in both psychological and physiological measures following the laughter therapy intervention among elderly residents in the selected New Delhi old age home.

In terms of psychological well-being, the participants exhibited a noteworthy reduction in depressive symptoms, as indicated by the Geriatric Depression Scale. The mean score decreased from 12.45 “SD = 3.21” pre-intervention to 9.78 “SD = 2.45” post-intervention, yielding a statistically significant t-value of 4.62 ($p < 0.001$). This finding aligns with prior research emphasizing the positive impact of laughter therapy on mental health outcomes, specifically in reducing symptoms of depression among the elderly (Kim et al., 2016).

Positive affect, measured by the PANAS, saw a significant increase post-intervention (29.14 ± 5.32) compared to pre-intervention (25.76 ± 4.89), with a t-value of -3.28 ($p < 0.01$). The negative t-value indicates a decrease in negative affect, emphasizing the potential of laughter therapy in fostering a more positive emotional state. This aligns with studies suggesting that laughter therapy can contribute to emotional well-being by promoting positive affect and reducing negative emotions (Zarshenas et al., 2019).

Physiologically, the intervention influenced cardiovascular health, as evidenced by a decrease in heart rate “ $t = 2.89, p < 0.05$ ” and both systolic “ $t = 3.76, p < 0.001$ ” and diastolic blood pressure “ $t = 2.18, p < 0.05$ ”. These changes are consistent with the cardiovascular benefits associated with laughter, including improved blood flow and vascular function (Bennett et al., 2003). Moreover, cortisol levels, an indicator of stress, exhibited a significant reduction post-intervention ($t = 6.45, p < 0.001$), aligning with laughter's stress-reducing effects documented in the literature (Berk et al., 2011).

In conclusion, the findings from this paired t-test analysis suggest that “laughter therapy has a positive and multifaceted impact on both psychological and physiological well-being among elderly individuals in the old age home setting”. The observed changes support the potential incorporation of laughter therapy as a complementary intervention in geriatric care, offering a holistic approach to address mental health and cardiovascular aspects of aging.

Table 3: Correlation Matrix of Psychological and Physiological Measures in Elderly Participants

Measures	Geriatric Depression Scale	PANAS Positive Affect	PANAS Negative Affect	Heart Rate	Blood Pressure (Systolic)	Blood Pressure (Diastolic)	Cortisol Levels
Geriatric Depression Scale	-	-0.74**	0.62**	0.38*	0.51**	0.29	0.67**
PANAS Positive Affect	-0.74**	-	-0.82**	-0.45**	-0.56**	-0.32*	-0.69**
PANAS Negative Affect	0.62**	-0.82**	-	0.29	0.37*	0.18	0.57**
Heart Rate	0.38*	-0.45**	0.29	-	0.62**	0.47**	0.15
Blood Pressure (Systolic)	0.51**	-0.56**	0.37*	0.62**	-	0.69**	0.23
Blood Pressure (Diastolic)	0.29	-0.32*	0.18	0.47**	0.69**	-	0.34*
Cortisol Levels	0.67**	-0.69**	0.57**	0.15	0.23	0.34*	-

***Correlation is significant at the 0.01 level (2-tailed)*”.

****Correlation is significant at the 0.05 level (2-tailed)*”.

Table 3 shows correlation matrix and unveils insightful relationships between psychological and physiological measures among elderly individuals participating in the laughter therapy intervention. These findings contribute to a nuanced understanding of the interconnected nature of mental and physical well-being in the geriatric population.

Starting with psychological measures, the Geriatric Depression Scale exhibits a robust “negative correlation with PANAS Positive Affect” ($r = -0.74, p < 0.01$) and a “positive correlation with PANAS Negative Affect” ($r = 0.62, p < 0.01$). This shows that when depressed symptoms lessen, positive affect increases and negative affect decreases. This aligns with research highlighting the reciprocal relationship between depression and emotional states in older adults (Meeks et al., 2015). The strong negative correlation between cortisol levels and PANAS Positive Affect ($r = -0.69, p < 0.01$) corroborates the existing literature, emphasizing the impact of stress hormones on positive emotional states (Lederbogen et al., 2011).

Moving to physiological measures, heart rate shows a positive correlation with the “Geriatric Depression Scale” ($r = 0.38, p < 0.05$), suggesting a potential link between cardiovascular health and depressive symptoms. This finding resonates with studies indicating that increased heart rate is associated with higher levels of depression and anxiety in older adults (Carney

et al., 2014). Similarly, blood pressure (systolic and diastolic) demonstrates positive correlations with the Geriatric Depression Scale ($r = 0.51$ and $r = 0.29$, respectively, both $p < 0.01$).

The strong positive correlation between cortisol levels and the Geriatric Depression Scale ($r = 0.67$, $p < 0.01$) emphasizes the intricate connection between stress hormones and depressive symptoms. This aligns with previous studies indicating dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis, which controls cortisol release, in individuals with depression (Stetler & Miller, 2011).

In conclusion, the correlation matrix underscores the complex interplay between psychological and physiological aspects of well-being among elderly individuals engaged in laughter therapy. The significant associations observed provide valuable insights into the potential holistic impact of laughter therapy on mental health, emotional states, and cardiovascular parameters in the geriatric population.

Conclusion

In conclusion, the findings from this comprehensive study on the effectiveness of laughter therapy in an old age home in New Delhi illuminate the profound positive impact of this intervention on the holistic well-being of elderly residents. The results of the paired t-test analysis indicate significant improvements in both psychological and physiological measures following the eight-week laughter therapy intervention. Elderly participants experienced a notable reduction in depressive symptoms, as evidenced by a decrease in Geriatric Depression Scale scores. Positive affect increased, and negative affect decreased, reflecting the potential of laughter therapy to foster a more positive emotional state. Physiologically, the intervention demonstrated positive effects on cardiovascular health, with reductions in heart rate and both systolic and diastolic blood pressure. These changes align with existing research on the cardiovascular benefits associated with laughter, emphasizing improved blood flow and vascular function. Additionally, cortisol levels, indicative of stress, exhibited a significant reduction, affirming the stress-reducing effects of laughter therapy. The correlation matrix further highlights the interconnected nature of psychological and physiological measures, emphasizing the intricate relationships between depressive symptoms, emotional states, and physiological indicators like heart rate and cortisol levels. These findings contribute to a nuanced understanding of the potential of laughter therapy in addressing the multifaceted challenges faced by elderly individuals in communal living environments.

The study's significance extends beyond its immediate findings, as it provides valuable insights into tailoring geriatric care interventions. The diverse demographic profile of participants reflects the importance of considering individual characteristics and experiences in designing effective interventions. Furthermore, the research addresses a gap in the literature by focusing on the Indian context, recognizing cultural nuances that may influence the acceptance and efficacy of laughter therapy among the elderly. The study's outcomes have broader implications for global healthcare practices, particularly in the context of the growing elderly population worldwide. By emphasizing laughter therapy as a complementary and holistic intervention, this research advocates for innovative approaches to address the unique healthcare needs of older adults. The potential integration of laughter therapy into geriatric care strategies has the capacity to enrich the lives of elderly individuals not only in New Delhi but globally, fostering well-being and resilience in the aging population. In essence, laughter therapy emerges as a promising and accessible avenue for promoting the health and vitality of elderly individuals, and its incorporation into geriatric care merits further exploration and consideration within healthcare frameworks globally.

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