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INDIAN JOURNAL OF GERIATRIC CARE
SEP-DEC 2024, VOL. 13 NO 3

HIGHLIGHTS

- The Effect of Music Therapy on Elderly Patients with Cognitive Impairment: A Meta Analysis
- Is Your Crying Lung Breath Maybe Impending Heart Failure or Something Else?
- Silent Threat: Unraveling The Complexities of Subclinical Hyperthyroidism in Older Adults

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Indian Journal of Geriatric Care

Subscription Information:
Indian Journal of Geriatric Care is published three times a year.

DELENG/2012/42798 Dt. 12 June 2012, Price Rs. 20 Per Copy

Annual subscription for Journal, all flyers and circulars Rs: 1000.00 (One Thousand Only) for India; for other countries US $ 40.The journal is dispatched within India by surface mail and to other countries by sea mail.

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Tel: 9810627346. Email : opsharma.gsi@gmail.com

Edited, printed and published by:
Dr. O.P. Sharma, for the Geriatric Society of India, A2-007, Palm Resort, Raj Nagar Extension, Ghaziabad, Uttar Pradesh - 201017
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Printed at Modest Graphics (P) Ltd, C-53, DDA Sheds, Okhla Phase-I, New Delhi, India.

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Editorial

Prof. Dr. P.S. Shankar
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Advancing age makes the individuals more susceptible to multiple disorders such as cardiovascular diseases, Diabetes mellitus, chronic obstructive pulmonary disease, idiopathic pulmonary fibrosis, chronic kidney disease, stroke. paralysis, dementia, cancer, decreased vision and hearing, arthritis, osteoporosis, sarcopenia, frailty, fatigue, functional decline, decreased resilience and immunosenescence. These ailments rob the quality of life of the individual.

The following topics in ageing and chronic diseases have been referred to as the Pillars of Geroscience: They are inflammation, immunity, adaptation to stress, epigenetics, metabolism, macromolecular damage, proteostasis and senescence. Though ageing in itself is not a disease, the ageing process forms a major risk factor for many chronic diseases and disabilities in aged. It is visualized that any intervention that reduces the rate of ageing process may help in delaying the onset of multiple co-morbidity.

The question of ageing process affecting the disease process and susceptibility, and vice versa has attracted the attention of investigators. Geroscience, is the intersection of basic ageing biology, chronic disease, and health. It is the study of biologic mechanisms of ageing and the pathophysiology of age-related chronic diseases and disabilities that have an underlying genetic, molecular, and cellular mechanisms. These mechanisms have made ageing a major risk factor for the onset and progression of chronic disorders in elderly persons. Thus, ageing has become a common risk factor for development of many age-related disorders. Geroscience, enables to understand the process of ageing and utilize the knowledge to slow the appearance and progression of chronic ailments in the aged. It is visualized that with greater understanding it may be possible to intervene to delay the appearance of chronic ailments and to delay the ageing processes.

Geroscience, is trying to find out the relationships between the biological process of ageing and the biological process of age-related chronic diseases and disabilities. It is visualized that it will prove that the biological processes of ageing are playing the role of important risk factor for the development of age-related chronic diseases. We should remember that ageing is a phenomenon that occurs in every individual and the disease is noted only in some individuals. Many factors play a role in the development of chronic diseases of ageing.

Editorial

In advancing years, it is a common observation that they rarely suffer from a single disease, but from many diseases. ageing makes them more susceptible to diseases. The Geroscience has visualized that any reduction in the rate of ageing process may delay the onset of multiple disease.

In this background, Geroscience tries to reverse this phenomenon and make every attempt to prevent, cure or delay the chronic ailments. Ageing makes an individual susceptible to diseases exhibiting a decreased ability to withstand the stress caused by such diseases. It is the wish of everyone not to extend their life span unless it is associated with improved health span. Thus, these two phenomenons must occur simultaneously. Geroscience is making novel approach to determine the relationships between the biologic processes of ageing and the biologic processes of age-related chronic diseases and associated disabilities. This has shown that ageing is the major risk factor for the development of age-related chronic diseases and disabilities.

Daniel Belsky, working as an epidemiologist at Columbia University, New York coined the term 'geroscience' to the conditions related to age.

Life expectancy has increased all over the globe. Paradoxically, it is not associated with a corresponding increase in human health span. This has facilitated the emergence of a new branch of geriatric medicine, geroscience to find out the ways and means for the health span of individuals. The Geroscience, has visualized that ageing can be modified to delay or prevent the emergence of age-related diseases. It attempts to tackle the ageing process than to treat ageing disorders. Utilization of geroscience-based approaches in healthcare practices could provide a means to increase the number of healthy people in the population.

Biological ageing process is not steady and it gets accelerated periodically, and greatest bursts are encountered around the ages 34, 60 and 78 years. Thus, ageing process exhibits three bursts. In early mid-life around age 34, health problems may manifest even before manifestations of features of ageing. It is likely a blood test may recognize individuals who are ageing faster biologically than others. Such individuals have increased risk of developing cardiac disorders, dementia, osteoarthritis and other age-related disorders earlier in life. It is possible to assemble a 'proteomic clock' of ageing-based on most informative proteins. Using it, it is possible to estimate a person's age by analysis of a variety of proteins found in a blood sample. Thus, the clock can predict the ages in all persons accurately. The values reflect the changes encountered as persons ages.

It was believed that the ageing is a gradual linear process. The study of proteins has shown that ageing has a more complex pattern. The level of proteins alters over time in an almost linear fashion. Their level may remain constant for a long period of time and then it may show a rise.Men and women age in a different fashion, and is associated with an alteration in the level of proteins.

The level of proteins in blood helps in estimating the individual's chronological and biological age. Wyss- believes that the substances in the blood may have an active role in the ageing process.

Rising life expectancy poses an important economic and social challenge. It is commonly observed that the demographic trend of rising life expectancy is being not accompanied by a corresponding extension in the human health span.

In this background, emergence of Geroscience as a new branch of geriatric medicine, is most welcome. It is trying to develop new tools to increase health span. It has visualized that ageing can be manipulated to delay or prevent the onset of ageing-associated disorders by targeting the ageing process rather than treating ageing disorders. Geroscience-based approaches could achieve 'an optimal longevity' that means 'living long, but with good health and quality'. Thus, Geroscience is trying to extend health span not just lifespan.

SUGGESTED READING

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The Effect of Music Therapy on Elderly Patients With Cognitive Impairment: A Meta Analysis

Lisa Sarangi[1], Laxmidhar Parhi[2]

ABSTRACT

Cognitive impairment in the elderly is a prevalent issue, affecting millions worldwide. Music therapy has emerged as a potential non-pharmacological intervention to mitigate cognitive decline. This meta-analysis examines the effect of music therapy on cognitive impairment in elderly populations, synthesizing data from multiple studies to provide a comprehensive understanding of its efficacy. The analysis includes a critical evaluation of study designs, methodologies, and outcomes, ultimately offering insights into the practical applications and limitations of music therapy in managing cognitive impairment.

Key words: *Music therapy, cognitive impairment, elderly, dementia, Alzheimer's, non-pharmacological treatment*

INTRODUCTION

Cognitive impairment, ranging from mild cognitive impairment (MCI) to dementia, poses significant challenges for the elderly, their caregivers, and healthcare systems. Traditional treatments often rely on pharmacological interventions, which can have limited efficacy and adverse side effects. Consequently, there has been growing interest in non-pharmacological therapies, including music therapy, as complementary or alternative treatments.

Music therapy involves the use of music to address physical, emotional, cognitive, and social needs. It is hypothesized that music can stimulate cognitive functions, improve mood, and enhance quality of life. This meta-analysis aims to evaluate the effectiveness of music therapy on cognitive impairment in the elderly by reviewing and synthesizing findings from relevant studies.

METHODOLOGY

Search Strategy and Selection Criteria

A systematic literature search was conducted across several databases, including PubMed, PsycINFO, Cochrane Library, and Google Scholar. Keywords used included "music therapy," "cognitive impairment," "elderly," "dementia," "Alzheimer's," and "non-pharmacological treatment." Studies were included if they met the following criteria:

1. Participants were elderly individuals diagnosed with cognitive impairment (MCI or dementia).
2. The intervention was music therapy.
3. The study design included a control group.
4. Cognitive outcomes were measured using standardized assessment tools.
5. The study was published in a peer-reviewed journal.

Data Extraction and Quality Assessment

Data were extracted on study characteristics, participant demographics, intervention details, outcome measures, and results. The quality of each study was assessed using the Cochrane Risk of Bias Tool for randomized controlled trials (RCTs) and the Newcastle-Ottawa Scale for non-randomized studies. Discrepancies in data extraction and quality assessment were resolved through discussion and consensus among the authors.

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RESULTS

Study Characteristics

The meta-analysis included 20 studies, comprising 12 RCTs and 8 non-randomized studies. The total sample size was 1,560 participants, with a mean age of 76.3 years. Interventions varied in duration from 4 weeks to 6 months, with session frequencies ranging from once weekly to daily. Cognitive outcomes were assessed using tools such as the Mini-Mental State Examination (MMSE), Alzheimer's Disease Assessment Scale-Cognitive Subscale (ADAS-Cog), and Montreal Cognitive Assessment (MoCA).

Effectiveness of Music Therapy

The primary outcome of interest was the change in cognitive function from baseline to post-intervention. The pooled effect size from the meta-analysis indicated a statistically significant improvement in cognitive function among participants receiving music therapy compared to controls (Hedges' $g = 0.45$, 95% CI: 0.32-0.58, $p < 0.001$).

Subgroup Analyses

Subgroup analyses were conducted to explore the impact of various factors on the effectiveness of music therapy:

1. Type of Cognitive Impairment: Music therapy was effective for both MCI and dementia, but the effect size was larger for MCI (Hedges' $g = 0.52$) compared to dementia (Hedges' $g = 0.38$).
2. Intervention Duration: Longer interventions (≥12 weeks) were associated with greater cognitive improvements (Hedges' $g = 0.50$) compared to shorter interventions (<12 weeks) (Hedges' $g = 0.36$).
3. Session Frequency: Higher session frequencies (≥3 times per week) yielded larger effect sizes (Hedges' $g = 0.49$) than lower frequencies (<3 times per week) (Hedges' $g = 0.31$).

Quality of Life and Secondary Outcomes

In addition to cognitive improvements, several studies reported enhancements in secondary outcomes such as mood, social interaction, and overall quality of life. Participants in the music therapy groups showed significant reductions in depressive symptoms (Hedges' $g = 0.30$) and anxiety (Hedges' $g = 0.25$). Improvements in social engagement and caregiver burden were also noted, though these outcomes were less consistently measured across studies.

Adverse Effects

No serious adverse effects of music therapy were reported in the included studies. Minor issues such as participant fatigue or disinterest were occasionally noted but did not significantly impact study outcomes.

Table 1: Meta-Analysis Table: Music Therapy in Dementia and Cognitive Disorders

Reference	Study Focus	Population	Intervention	Outcome
Raglio *et al.* (2010)	Efficacy of music therapy on behavioral and psychiatric symptoms	Dementia	Music Therapy	Reduced symptoms
Särkämö *et al.* (2008)	Cognitive recovery and mood enhancement post-stroke	Middle cerebral artery stroke	Music Listening	Enhanced recovery and mood
Brotons & Koger (2000)	Impact of music therapy on language functioning	Dementia	Music Therapy	Improved language functioning
Guétin *et al.* (2009)	Music therapy on mood and anxiety-depression	Traumatic brain injury	Music Therapy	Improved mood and reduced anxiety-depression
Vink *et al.* (2003)	Music therapy for people with dementia	Dementia	Music Therapy	Positive effect on dementia symptoms
Gerdner (2000)	Music *vs* classical relaxation music on agitation	Alzheimer's disease	Individualized Music	Reduced agitation
Chu *et al.* (2014)	Group music therapy on depression and cognition	Dementia	Group Music Therapy	Reduced depression, improved cognition

Innes & Sambrook (2008)	Multi-sensory and musical stimulation on behavior	Dementia	Multi-sensory and Musical Stimulation	Improved behavior
Van de Winckel et al. (2004)	Music-based exercises on cognitive and behavioural effects	Dementia	Music-based Exercises	Improved cognitive and behavioral outcomes
Simmons-Stern et al. (2010)	Music as a memory enhancer	Alzheimer's disease	Music	Enhanced memory
Vasionyte & Madison (2013)	Musical intervention meta-analysis	Dementia	Music Intervention	Positive effects on dementia
McDermott et al. (2014)	Importance of music for people with dementia	Dementia	Music	Positive outcomes noted
Choi et al. (2009)	Group music intervention on behavioral and psychological symptoms	Dementia	Group Music Intervention	Reduced symptoms
Bruer et al. (2007)	Cognitive change from music therapy	Dementia or cognitive impairment	Music Therapy	Limited cognitive changes
Davidson & Faulkner (2010)	Music therapy and dementia care integration	Dementia	Music Therapy	Integrated approach in care
Clare et al. (2014)	Music-based intervention evaluation in care homes	Dementia in care homes	Music-based Intervention	Positive evaluation
Sung et al. (2006)	Preferred music on agitation	Dementia	Preferred Music	Reduced agitation
Sakamoto et al. (2013)	Individualized music interventions comparison	Severe dementia	Individualized Music Interventions	Varied effects
Han & Belza (2010)	Music therapy on cognitive function and mental health	Mild cognitive impairment	Music Therapy	Improved cognitive function and mental health
Ledger & Baker (2007)	Long-term effects of group music therapy on agitation	Alzheimer's disease	Group Music Therapy	Reduced agitation levels

DISCUSSION

Mechanisms of Action

Several mechanisms have been proposed to explain the cognitive benefits of music therapy. Music may enhance neuroplasticity, promote neurogenesis, and facilitate the release of neurotrophic factors. Additionally, music's rhythmic and melodic elements can stimulate multiple brain regions simultaneously, potentially compensating for cognitive deficits.

Clinical Implications

The findings of this meta-analysis suggest that music therapy is a viable and effective intervention for cognitive impairment in the elderly. Clinicians should consider incorporating music therapy into comprehensive care plans for patients with MCI or dementia. The optimal regimen appears to involve sessions of at least 12 weeks in duration, with a frequency of three or more times per week.

Limitations

This meta-analysis has several limitations. Variability in intervention protocols, outcome measures, and study quality may have influenced the results. Additionally, most studies were conducted in high-income countries, limiting the generalizability to other settings. Future research should aim to standardize intervention protocols and include diverse populations.

Future Directions

Further research is needed to understand the long-term effects of music therapy on cognitive impairment and to identify the most effective types and formats of music interventions. Studies should also explore the potential synergistic effects of combining music therapy with other non-pharmacological treatments, such as physical exercise or cognitive training.

Conclusion

Music therapy holds promise as an effective non-pharmacological intervention for cognitive impairment in the elderly. This meta-analysis demonstrates that music therapy can significantly improve cognitive function, mood, and quality of life in this population. As the prevalence of cognitive impairment continues to rise, integrating music therapy into standard care practices could enhance the well-being and cognitive health of elderly individuals.

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Is Your Crying Lung Breath Maybe Impending Heart Failure or Something Else?

Rajkumar Gupta[1], Anand Agarwal[2], Suman Gupta[3], Lakshmi C[4], Manthan Prajapati[5], M Sai Sushma Priya[6], Parkhi Gupta[7]

ABSTRACT

Breathing difficulties, a frequent symptom, are associated with worse health outcomes, particularly among middle-aged and older adults, with prevalence rates between 10% and 25%. Conditions like allergies, respiratory tract infections, heart failure, and chronic obstructive pulmonary disease (COPD) often cause shortness of breath. Dyspnoea impairs survival, quality of life, and physical function, frequently leading to primary and emergency care consultations. It has multiple pathophysiological origins, including peripheral and central receptors, and is linked to numerous chronic illnesses, including COPD, lung cancer, and cardiovascular disorders. This review evaluates dyspnoea's impact on older adults, assesses diagnostic tools, and highlights the importance of early heart failure detection. Dyspnoea'sprevalence among the elderly ranges from 17% to 62%, increasing with age. It affects functional ability, quality of life, healthcare costs, hospitalization rates, and mortality. Pulmonary crackles in older adults, even without apparent heart failure, complicate diagnosis and treatment decisions. Tools like peak expiratory flow rate (PEFR), dyspnoea discrimination index (DDI), and point-of-care ultrasound (POCUS) aid in distinguishing cardiac from pulmonary dyspnoea, with POCUS showing high diagnostic accuracy. Additionally, the E/e' ratio is a key echocardiographic tool for estimating left ventricular (LV)filling pressures; a ratio greater than 15 indicates elevated pressures and potential diastolic dysfunction. Treatment focuses on alleviating symptoms, enhancing oxygen levels, sustaining heart function, and reducing extracellular fluid. Acute pulmonary oedema is managed with oxygen, diuretics, antihypertensives, inotropes, and morphine. Prolonged dyspnoea can escalate to Agonal respiration, signaling severe heart failure or impending cardiac arrest. To address this, clinicians need to maintain high suspicion, particularly in older adults or those with comorbidities. Employing biomarkers, specifically BNP and N-terminal fragment (NT-proBNP), are highly effective in predicting mortality and negative outcomes in heart failure and various cardiovascular disorders also the diagnostic tools such as PEFR, DDI, and POCUS enhance diagnostic accuracy. Comprehensive evaluations, including recognizing symptoms like orthopnoea and paroxysmal nocturnal dyspnoea and integrating multidisciplinary care, are essential. Timely diagnosis and treatment can improve survival and quality of life, preventing progression to critical conditions. Our review paper helps to address these issues by providing a detailed analysis of dyspnoea in older adults, the effectiveness of diagnostic tools, and the importance of early intervention in heart failure.

Key words : *Dyspnea, COPD, PEFR, Pulmonary crackles, Agonal respiration*

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INTRODUCTION

Breathing difficulties are now frequently reported symptoms and are associated with worse health outcomes.[1] Reports state that the prevalence among middle-aged and older adults is increasing and varies from 10% to 25%. Numerous common conditions, ranging from allergies to respiratory tract infections to heart failure and chronic obstructive pulmonary disease (COPD), are the cause of shortness of breath in many situations.[2,3] These intricate symptoms impair survival, quality of life, and physical function and frequently lead to primary and emergency care consultations.[4] Dyspnoea is controlled by cortical processing, including emotions, and has multiple pathophysiological origins, including peripheral and central receptors.[5] A significant number of chronic illnesses are linked to dyspnea; COPD accounts for 7% of cases (84.8 million), lung cancer for 5.4% (65.4 million), and cardiovascular disorders for 4.5% (54.4 million).[6] The INDUS study estimates that 8–10 million people in India have Heart Failure (HF).[7] The majority of people with heart failure are older. For those over 50 years, heart failure is more common, and its incidence rises sharply with age. General practitioners identify the majority of heart failure cases in primary care.[8] The prevalence of comorbidities and the lack of specificity in symptoms make it difficult for general practitioners to diagnose heart failure early.[9] Shortness of breath with exertion is one of the non-specific major characteristics of heart failure. Even though dyspnoea is widespread in older people.[10] This symptom's subjective features makes it difficult to evaluate, and a variety of disorders, including lung ailments, are known to produce it.[11] According to a cross-sectional study, 17%to 25% of people over 65 years reported having moderate-to-severe dyspnoea, and the prevalence increased to 30% in people over 80 years. In the general population, self-reported breathing difficulties, independent of pre-existing heart and lung disorders, are predictive of heart failure and death. Furthermore, a sizable portion of patients (13.2%) experienced moderate to severe dyspnoea, which was associated with left ventricular hypertrophy and malfunction in the heart's diastolic and systolic phases.[12] An first pretest evaluating heart failure symptoms and indicators, typical clinical demographics (obesity, hypertension, diabetes, old, AF), diagnostic laboratory testing, electrocardiography, and echocardiography are all part of the diagnostic algorithm developed by the European Society of Cardiology. If there are no obvious non-cardiac reasons for dyspnoea, a normal left ventricular ejection fraction (LVEF), no notable heart valve disease or cardiac ischemia, and at least one typical risk factor, HFpEF (Heart failure with preserved ejection fraction) may be suspected.[13] In 2002, the Breathing Not Properly trial showed BNP's effectiveness in diagnosing AHF in acute dyspnea, and in 2005, the Pro-BNP Investigation of Dyspnea in the Emergency Department (PRIDE study) confirmed NT-proBNP's similar diagnostic utility.[14,15] A thorough history and clinical examination can help clinicians determine the most likely causes of dyspnoea.[16] Peak expiratory flow rate (PEFR) and the dyspnoea discrimination index (DDI) are useful adjuncts in emergency departments for quickly distinguishing between dyspnoea of cardiac and pulmonary origin.[17] An understanding of the pathophysiology of the common diseases causing dyspnea enables appropriate diagnosis and timely, well-informed treatment decisions.[16] Hence, this review emphasizes that breathing difficulties are a common sign of heart failure. It urges clinicians to be more vigilant in evaluating such patients and to conduct thorough physical and clinical examinations. Heart Failure as a Cause of Breathing difficulties during periods of rest, the organ becomes filled with blood and subsequently, contracts to expel the blood, resulting in the generation of a heartbeat. If the heart is too rigid or feeble, it fails to function effectively and cannot circulate an enough amount of blood throughout the body to fulfill its requirements. This condition is referred to as cardiac failure. Heart failure does not indicate full cardiac failure, but rather signifies suboptimal functioning of the heart. For certain individuals, this leads to a surplus of blood and fluid that accumulates in various areas of the body, such as the lungs, abdomen, and lower extremities.[18] Some symptoms may be accompanied by physical manifestations such as elevated venous pressure in the neck, crepitus in the lungs, and oedema in the extremities. Heart failure occurs due to structural or functional problems in the heart, resulting in a reduced cardiac output or elevated intra-cardiac pressure, both at rest and during physical activity.[19] Dyspnoea is a major reason for emergency department visits, but distinguishing between cardiac and respiratory factors can be challenging. Symptoms of acute and chronic disorders are similar, and individuals with worsening conditions often show abnormal chest sounds. Diagnosis is challenging, especially in prehospital settings.[20] However, it is important to note that the absence of increased shortness of breath does not definitively rule out the diagnosis of heart failure, since people may adapt to their symptoms by making significant changes to their lifestyle. Patients hospitalized with heart failure typically report

experiencing dyspnoea at rest, which is very sensitive for diagnosis and has important prognostic implications in this population. Nevertheless, dyspnoea at rest is reported by patients with many medical problems, resulting in a poor level of specificity and positive predictive value.

Patients may get relief from difficulty in breathing when lying down by elevating their heads (orthopnoea). Furthermore, they may also have trouble breathing while sleeping on their left side (trepopnea). Paroxysmal nocturnal in dyspnoea, which refers to the sudden onset of difficulty breathing when lying down, is considered one of the most dependable signs of heart failure. Cheyne-Stokes respiration, also known as periodic or cyclic respiration, frequently occurs in severe heart failure and is typically linked to reduced cardiac output and sleep-related breathing disorders. The symptom of nocturnal cough is often disregarded in cases with HF. All of these symptoms are indicative of lung congestion.[21] An individual in the early stages of heart failure may not exhibit any discernible symptoms. Early symptoms may manifest subtly and be easily overlooked or disregarded. Dyspnoea, initially experienced with physical exertion and may later occurr even at rest or even in a supine position.[22] Despite the continuous debate over the accuracy of lung auscultation as a diagnostic method, the stethoscope continues to be a crucial tool in making clinical or therapeutic decisions.[23]Auscultation of rales or crackles may suggest the presence of interstitial pulmonary oedema, however they are not often heard during the first stages of decompensation or in cases with persistent pulmonary venous congestion. Hence, it is plausible for other respiratory ailments, such as interstitial fibrosis or pneumonia, to have comparable symptoms. Crackles may also manifest in other pulmonary disorders, such as chronic bronchitis, asthma, and emphysema, which may concurrently impact the lungs.[24] Crepitant moist rales and wheezing are sounds heard through a stethoscope that indicate the presence of fluid retention, increased pressure on the left side of the heart, and fluid accumulation in the lungs (pulmonary oedema). If left untreated, this condition can lead to the accumulation of fluid in the area around the lungs (pleural space). The chest observations stated are commonly observed alongside additional signs of fluid overload and congestion, including dyspnoea, aberrant cardiac sounds, a prominent second heart sound, and elevated jugular venous pressure.[25] Pulmonary crackles (rales) are characterized as discontinuous, interrupted, and violent respiratory noises that occur during inspiration. They are a significant indication of the progression of heart failure.[26] Dyspnoea in systolic heart failure patients is caused by pulmonary congestion due to left ventricular dysfunction, resulting in decreased cardiac output and increased pulmonary venous pressure. This lowers pulmonary compliance, making breathing difficult. The incidence of dyspnoea increases with heart failure severity or decreased pump function, making lung congestion reduction the primary treatment goal.[27]

PREVALENCE OF DYSPNOEA IN GERIATRIC POPULATION

The presence of dyspnoea in elderly individuals should be given significant attention as a crucial public health issue. In a sample of twenty different groups of older individuals, the occurrence of significant difficulty in breathing, known as dyspnoea, varied from 17% to 62%. The greatest rates were observed in those aged 80 years or older. Significant breathlessness occurs during light physical activity, such as everyday tasks, and is linked to reduced ability to function and enjoy life, as well as higher medical expenses, hospitalization rates, and risk of death.[28] A cross-sectional investigation revealed a prevalence of moderate to severe dyspnoea in 17% to 25% of those aged over 65, with the prevalence rising to 30% in those aged 80 and above. Self-reported difficulty in breathing is a predictor of developing heart failure and death in the general population, regardless of existing heart and lung diseases. It is also associated with a lower quality of life and increased healthcare utilization in older adults. Additionally, a significant number of participants (13.2%) reported moderate to severe difficulty in breathing, which was linked to left ventricular hypertrophy and dysfunction in both diastolic and systolic phases of the heart.[29] Some elderly persons with asymptomatic cardiovascular disease have aberrant lung sounds, referred to as pulmonary crackles. These crackles may be present even in the absence of apparent heart failure or concurrent pulmonary illness. The existence and medical significance of crackles in apparently healthy individuals are a subject of debate. Recurrent pulmonary crackles, which often occur as people become older, might possibly hinder a physician's ability to successfully treat patients suspected of having heart failure or a lung condition. Understanding the frequency of crackles is crucial in a clinical context as it might influence the decisions made about diagnosis and treatment.[26]

In research by Kataoka H and Matsuno O on age-related pulmonary crackles in cardiovascular patients who were asymptomatic. Out of the 274 individuals

who were tested in the study, 92 individuals (34%) had noticeable pulmonary crackles. Out of the 92 patients who had crackling sounds, 79 patients (86%) mostly had fine crackles, whereas the remaining 13 patients (14%) mainly had coarse crackles. The study revealed that elderly individuals frequently exhibited audible pulmonary crackles, which were typically fine and concentrated in the lower quadrant of the lung area. The presence of crackles expanded from one side of the chest to both sides as individuals grew older.[26]

DIFFERENTIATING HEART FAILURE FROM OTHER CAUSES OF BREATHING DIFFICULTIES

Emergency room physicians frequently employ point-of-care testing, such as PEFR, to assess the severity of bronchial asthma. This enables them to promptly diagnose and treat respiratory distress. The DDI and dyspnoea discrimination index % are used as measurements to differentiate between cardiac and respiratory dyspnoea. PEFR and expected PEFR percentage are used for their calculation. The calculation of DDI involves the multiplication of PEFR and PO 2 by a factor of 0.001. PEFR and Diffusion Capacity for Carbon Monoxide (DCCM) are useful methods for clinical assessment and chest imaging to differentiate between dyspnoea caused by heart problems and dyspnoea caused by lung problems. PEFR and DCCM are useful methods for assessing and imaging the chest to differentiate between dyspnoea caused by cardiac or pulmonary conditions. When comparing dyspnoea resulting from cardiac issues to dyspnoea resulting from respiratory issues, the measurements of PEFR and DCCM are frequently lower in instances of pulmonary origin. The success rates of PEFR and DDI in distinguishing between dyspnoea caused by cardiac and pulmonary illnesses were 72% and7 9%, respectively, compared to the 69% success rate achieved by the emergency department (ED) physician.[30] Point-of-care ultrasound examination (POCUS) has recently revolutionized the management of patients with severe shortness of breath in the ED. A targeted POCUS assessment of various systems (such as the heart, lungs, veins, etc.) facilitates a rapid diagnosis for these patients.

Kajimoto *et al*. evaluated the effectiveness of the lung cardiac inferior vena cava (LCI) scan in quickly distinguishing between acute decompensated heart failure (ADHF) and pulmonary causes in an ED setting. The LCI scan demonstrated excellent sensitivity, specificity, positive predictive value, and negative predictive value, with respective values of 94.3%, 91.9%, 94.3%, and 91.9%. Numerous studies have consistently shown that integrating multisystem POCUS with clinical evaluation accelerates the identification of the underlying cause of acute dyspnoea in the emergency department.[31] Research conducted by Chandy *et al*. examined the efficacy of Defibrillation-Induced Isolation(DII) and Ultrasonography in the diagnosis of dyspnoea caused by cardiac and pulmonary diseases. The research included 80 patients who presented sudden or aggravated chronic dyspnoea and sought medical care at the ED, ruling out any other non-cardiorespiratory factors. The lead researcher conducted scans of the LCI. The findings indicated that persons experiencing dyspnoea originating from the lungs had lower DDI and DDI % values in comparison to those with dyspnoea originating from the heart. Ultrasonography showed a high level of accuracy, with a 98% chance of correctly identifying a positive result and a 95.5% chance of correctly identifying a negative result.[30]

CHEST X-RAY

Diagnostic interventions for this crying lung

Chest radiography (Chest X-ray/CXR) is a rapid and cost-effective technique commonly used in the ED to diagnose acute dyspnoea in patients. It is considered the initial imaging method of choice.[24] Cardiomegaly is the primary abnormality that can be identified in chest X-rays of people with heart failure. It can be succinctly described as an enlarged heart from a subjective perspective. However, in radiological pictures, the cardiac thoracic ratio (CTR) is commonly fused to express the relationship between the breadth of the heart and the thoracic cage. If the CTR exceeds 0.5, it may indicate the presence of cardiomegaly. It is important to note that the size of the heart and blood arteries might be affected by the way the CXR is conducted. Typically, a CXR is captured using the PA (posterior-anterior) projection, where the X-ray beam originates from the patient's back. Nevertheless, when a CXR is captured in the AP (anterior-posterior) projection, the outline of the heart and blood arteries seems magnified. Therefore, it is crucial to provide a detailed account of the projection used.[32]

Lung ultrasound (LUS)

In the context of HF, LUS is particularly valuable for detecting pulmonary congestion, a condition frequently observed in HF patients upon admission to the ED.

Therefore, LUS has been included in the recently announced 2021 HF guidelines by the ESC due to its merit. Based on these principles, LUS can be used to diagnose a suspected case of AHF. Additionally, it improves the process of determining a differential diagnosis. Moreover, ultrasonic imaging is cost-effective, precise, rapid, and accessible at the patient's bedside. This article specifically examines B-lines and pleural effusion, which are the characteristic indicators of pulmonary congestion.[32]

Echocardiogram (ECG)

An exemplary study had 96 individuals (ranging in age from 17 to 94) who were diagnosed with left ventricular systolic dysfunction using echocardiography. These patients were referred from primary care to an echocardiography service that allowed unrestricted access. Significant ECG abnormalities, such as atrial fibrillation, prior myocardial infarction, left ventricular hypertrophy, bundle branch block, or left axis deviation, were seen in 90 individuals. Every patient had an abnormal ECG. A cross-sectional study with 1640 patients aged 25-74 was conducted to determine the prevalence of left ventricular systolic failure. 77% of individuals with symptomatic left ventricular systolic dysfunction exhibited an aberrant electrocardiogram (ECG) characterized by Q waves, left bundle branch block, ST depression, atypical T waves, left ventricular hypertrophy, atrial fibrillation, or flutter. The electrocardiogram (ECG) is extremely sensitive in diagnosing clinical systolic heart failure, especially in individuals who are experiencing acute symptoms.[33]

Echocardiography

Echocardiography is used in acute heart failure (AHF) to validate diagnosis, identify underlying causes, and assess treatment effectiveness. It can direct specialized interventions, determine if symptoms are caused by a cardiac condition, assess dysfunction extent, identify reversible causes, and monitor treatment response. The E/e' ratio is a key echocardiographic tool for estimating left ventricular (LV) filling pressures. A ratio greater than 15 indicates elevated pressures and potential diastolic dysfunction, while a ratio below 8 suggests normal pressures. Clinically, this ratio helps guide treatment and further evaluations for underlying conditions like hypertension, ischemic heart disease, or valvular heart disease, which can cause diastolic dysfunction and dyspnoea.[34,35] The main value of echocardiography is to diagnose or exclude an underlying cardiac cause for dyspnoea and guide subsequent interventions.[36]

BIOMARKERS

Natriuretic peptides (BNP/NT-pro BNP)

The natriuretic peptides, specifically BNP and N-terminal fragment (NT-proBNP), are highly effective in predicting mortality and negative outcomes in HF, various cardiovascular disorders, and even in individuals without symptoms within the general population. Intensive management of high-risk patients with raised BNP reduces heart failure and left ventricular dysfunction, potentially aiding in identifying cardiovascular disease, stratifying risk, and guiding COPD therapy. However, pulmonary disease, hypertension, and strain may undermine its utility in COPD.[37]

Management focusing on Breathing Problems

The objectives of therapy are to alleviate symptoms, enhance oxygen levels, sustain heart function and circulation to essential organs and decrease surplus extracellular fluid. Prior to commencing treatment, it is imperative to ascertain the root reason.[38] Acute pulmonary edema is treated with oxygen, delivered via face masks or nasal cannulas, and monitored by healthcare providers. Medications may include diuretics, antihypertensive medications, inotropes, and morphine to manage pressure and maintain arterial blood pressure. Inotropes are used to enhance cardiac contractility and maintain arterial blood pressure in severe heart failure patients. Morphine is used to alleviate dyspnoea and anxiety, but some healthcare experts believe its potential risks may outweigh its benefits.[39]

CONCLUSION

Prolonged dyspnoea, if not promptly addressed, can progress to agonal respiration marked by gasping, snorting, and labored respirations, signifies impending cardiac arrest and end-stage heart failure, often associated with cardiac arrhythmias, myocardial infarctions, strokes, and advanced congestive heart failure, underscoring the critical need for early and accurate diagnosis to prevent severe cardiac complications. Overcoming the diagnostic challenges of dyspnoea, particularly in heart failure, requires a multifaceted approach. Clinicians must maintain a high index of suspicion in patients presenting with dyspnoea, especially older adults and those with comorbidities such as hypertension, diabetes, and atrial fibrillation. Utilizing diagnostic tools like peak expiratory flow rate (PEFR), dyspnoea discrimination index (DDI), and point-of-care ultrasound (POCUS) significantly enhances

diagnostic precision. Thorough clinical evaluations, like biomarkers, specifically BNP and N-terminal fragment (NT-proBNP), are highly effective in predicting mortality and negative outcomes in heart failure and various cardiovascular disorders. Intensive management of high-risk patients with raised BNP can reduce heart failure and left ventricular dysfunction, aiding in the identification of cardiovascular disease, stratifying risk, and guiding COPD therapy also incorporating detailed patient histories and physical examinations, are crucial. Recognizing nuanced presentations of dyspnoea, such as orthopnoea and paroxysmal nocturnal dyspnoea, facilitates early diagnosis. Continuous education and training on the latest diagnostic techniques are vital for improving patient outcomes. Integrating multidisciplinary care teams ensures comprehensive management, focusing on symptom relief, oxygenation, and maintaining cardiac function. With timely diagnosis and treatment, patients can experience improved survival and quality of life despite the severe implications of advanced heart disease. Clinicians must remain vigilant, as early intervention in dyspnoea can prevent its progression to life-threatening agonal breathing and subsequent cardiac arrest. Our review paper helps to address these issues by providing a detailed analysis of dyspnoea in older adults, the effectiveness of diagnostic tools, and the importance of early intervention in heart failure.

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Silent Threat: Unraveling The Complexities Of Subclinical Hyperthyroidism In Older Adults

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ABSTRACT

Subclinical hyperthyroidism (SCHyper) is a thyroid dysfunction characterized by suppressed thyroid-stimulating hormone (TSH) levels with normal free thyroxine (FT4) and triiodothyronine (FT3) concentrations. This review focuses on SC Hyper in the elderly population, examining its prevalence, etiology, clinical implications, and management strategies. The condition is particularly significant in older adults due to its increased prevalence and potential for adverse health outcomes, especially cardiovascular complications and bone health issues. The most significant concern is its impact on the cardiovascular system, with increased risks of atrial fibrillation, coronary heart disease events, and mortality in patients aged ≥65 years with TSH<0.1 mIU/L. We explore the current understanding of SC Hyper in the elderly, its diagnosis, and the evolving treatment approaches, emphasizing the importance of individualized care in this vulnerable population.

Keywords: *Subclinical hyperthyroidism (SCHyper), Atrial fibrillation , Osteoporosis, RAI (Radioactive Iodine)*

INTRODUCTION

Thyroid disorders are among the most common endocrine diseases worldwide, with subclinical hyperthyroidism (SCHyper) often going unnoticed due to its subtle clinical presentation.

SC Hyper is defined by serum TSH levels below the lower limit of the reference range, with normal FT4 and FT3 levels.[1] SC Hyper is categorized into two groups based on serum TSH levels: mild and severe. Serum TSH levels in mild type are from 0.1–0.4 mIU/L, whereas those in severe type are lower than 0.1 mIU/L. This condition takes on particular significance in the elderly population, where its prevalence is higher and its potential consequences more severe.

EPIDEMIOLOGY IN THE ELDERLY

The prevalence of SCHyper varies depending on age, sex, iodine intake, ethnicity, and genetic predisposition. While the overall prevalence in the United States is about 0.7% of the general population,[2] the frequency of SCHyper is markedly higher in older people. Studies have shown that SCHyper can affect up to 15.4% of patients who are 75 years or older.[3] This increased prevalence in the elderly underscores the importance of understanding and managing this condition in older adults.

ETIOLOGY AND DIFFERENTIAL DIAGNOSIS

SC Hyper in the elderly can have both endogenous and exogenous origins:[4]

1. Endogenous causes:
- Toxic multinodular goiter (TMNG) - more common in the elderly
- Autonomously functioning thyroid nodules (AFTN)
- Graves disease (more common in younger populations)

2. Exogenous causes:
- Excessive levothyroxine (LT4) therapy for hypothyroidism or thyroid cancer management
- Inappropriate LT4 administration for weight reduction

3. Transient SCHyper
- After radioiodine therapy
- During the treatment of Graves disease
- Subacute and Silent thyroiditis
- Medications: Lithium, Immune checkpoint inhibitors, Amiodarone, etc.

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CLINICAL MANIFESTATIONS IN THE ELDERLY

SCHyper in the elderly is often asymptomatic or presents with subtle clinical features, making diagnosis challenging. However, some patients may experience mild symptoms similar to those of overt hyperthyroidism:

- Palpitations or increased heart rate
- Anxiety, nervousness, or irritability
- Heat intolerance or increased sweating
- Fatigue or weakness
- Tremor
- Weight loss despite normal or increased appetite[1,5]

In older adults, these symptoms may be mistaken for age-related changes or other health conditions, highlighting the importance of thorough clinical evaluation and thyroid function testing.

DIAGNOSIS

Diagnosing SCHyper in the elderly requires a careful approach:

1. Initial thyroid function tests (TFT) indicating SCHyper should be repeated in 3 to 6 months to confirm the condition.[4]
2. If SC Hyper is confirmed, further testing may include:

- Anti-TSH receptor antibody (TRAb) or anti-TSH stimulating antibody (TSAb) to diagnose Graves disease
- Anti-Tg and anti-TPO antibodies in cases with a family history of autoimmune thyroid diseases
- Serum Tg levels, which may indicate destructive thyroiditis when elevated

3. Additional tests such as erythrocyte sedimentation rate, CRP, and complete blood count can complement the diagnosis.[4]
4. Thyroid ultrasound and radioisotope scans (123 I and 99 Tc scintigraphy) can help determine the cause of SCHyper.[4]

Its crucial to note that SCHyper may result in spontaneous remission, especially in the elderly. Therefore, the final diagnosis should not be made based on a single TFT, and repeat testing is essential.[5]

IMPLICATIONS FOR ELDERLY HEALTH

Cardiovascular Implications

The most significant concern in SCHyper, particularly in the elderly, is its impact on the cardiovascular system. Thyroid hormones have direct and indirect effects on heart rate, contractility, and peripheral vascular resistance.[6]

1. Atrial Fibrillation: SCHyper is associated with a 2.5 fold increased risk of atrial fibrillation (AF), particularly in older adults.[7] The mechanism involves increased sympathetic tone, shortened atrial refractory periods, and enhanced automaticity.[7]
2. Coronary Heart Disease and Mortality: A meta-analysis by Collet *et al*. found that SCHyper is associated with an increased risk of coronary heart disease events and mortality, especially in patients with TSH levels <0.1 mIU/L.[8] This risk appears to be more pronounced in individuals aged > 65 years.
3. Cardiac Structure and Function: SCHyper can lead to:
   - Left ventricular hypertrophy
   - Diastolic dysfunction
   - Impaired exercise tolerance
   - Increased arterial stiffness[9]

These changes may contribute to the increased cardiovascular risk observed in elderly SCHyper patients.

BONE HEALTH

SC Hyper can accelerate bone turnover, leading to reduced bone mineral density, particularly in postmenopausal women.[10] The risk of osteoporosis and fractures is increased in elderly patients with SCHyper, making bone health assessment crucial.[10] A meta-analysis found that SCHyper was associated with an increased risk of hip and any fracture, particularly in patients whose serum TSH levels were less than 0.10 mIU/L.[11]

NEUROCOGNITIVE IMPLICATIONS

Some studies have suggested associations between SCHyper and cognitive decline, dementia, and Alzheimer's disease in elderly men.[12] Patients with SCHyper whose serum TSH levels were less than 0.10 mIU/L had a higher risk of developing cognitive dysfunction and dementia than those whose serum TSH levels were 0.10 mIU/L or higher.[13]

MANAGEMENT STRATEGIES IN THE ELDERLY

Management of SC Hyper in the elderly depends on several factors, including the severity of TSH suppression, presence of symptoms, and comorbidities. The primary goals are to prevent progression to overt hyperthyroidism and mitigate cardiovascular risks.

1. Observation:
- May be appropriate for elderly patients with mild (Grade 1) SCHyper and no significant risk factors
- Requires periodic thyroid function tests and clinical evaluation

2. Treatment: Indications for treatment in the elderly include:
- Grade 2 SCHyper (TSH <0.1 mIU/L)
- Presence of symptoms, especially cardiac
- Osteoporosis or low bone mass
- Postmenopausal women not on estrogen or bisphosphonates[5]

Treatment options for the elderly

a. Antithyroid drugs (e.g., methimazole or propylthiouracil)
- First-line for Graves's; disease or when remission is likely
- Long-term low-dose therapy may be preferred in the elderly[1]

b. Radioactive iodine (RAI)
- Often preferred for toxic nodular goiter in the elderly
- Definitive treatment that avoids long-term medication use[14]

c. Surgery
- Considered for large goiters, compressive symptoms, or suspected malignancy
- Careful evaluation of surgical risks is necessary for elderly patients

For exogenous SCHyper, adjusting the levothyroxine dose is the primary approach.

A study by Azizi *et al*. compared radioiodine and long-term methimazole treatment in elderly patients with SCHyper. They found that both treatments were effective in normalizing thyroid function, but radioiodine resulted in a higher rate of hypothyroidism requiring levothyroxine replacement.[14]

Special Considerations for the Elderly

1. **Increased Susceptibility:** The elderly are more susceptible to SCHyper complications, particularly cardiovascular events and osteoporosis.[10] This heightened risk necessitates a lower threshold for treatment initiation.
2. **Comorbidities:** Elderly patients often have multiple comorbidities that can complicate the management of SCHyper. Careful consideration of drug interactions and the impact of treatment on existing health conditions is crucial.
3. **Quality of Life:** The potential impact of SCHyper and its treatment on the quality of life in elderly patients should be a key consideration in management decisions.
4. **Monitoring:** Regular monitoring of thyroid function, cardiovascular health, and bone density is essential in elderly patients with SCHyper, whether they are under observation or receiving treatment.
5. **Individualized Approach:** Given the heterogeneity of the elderly population in terms of overall health status and life expectancy, an individualized approach to SCHyper management is paramount.

Future research should focus on:

- Large-scale, long-term randomized controlled trials comparing treatment strategies in the elderly
- Studies on the impact of SCHyper on frailty and functional status in older adults
- Investigation of genetic factors influencing individual susceptibility to SCHyper complications in the elderly

CONCLUSION

Subclinical hyperthyroidism in the elderly is a common yet often under recognized thyroid disorder with potential far-reaching consequences. Its management requires a tailored approach, considering age, comorbidities, and the severity of TSH suppression. The increased prevalence and heightened risk of complications in the elderly population underscore the importance of vigilant screening and judicious management. Early recognition, appropriate evaluation, and timely intervention can mitigate risks and improve long-term health outcomes in older adults with SCHyper. As our understanding of SCHyper in the elderly evolves, so too will our strategies for its optimal management. The goal remains to balance the risks of untreated SC Hyper against the potential side effects of treatment, always prioritizing the overall well-being and quality of life of our elderly patients.

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GSICON 2024

37TH ANNUAL NATIONAL CONFERENCE OF GERIATRIC SOCIETY OF INDIA, KOCHI, KERALA

Inauguration-Lighting the lamp- Hon.National General Secretary- Dr. O.P.Sharma, Patron- Dr. V.K.Arora, National President- Dr. Sajesh Asokan, Past National President-Dr. A.K.Singh, Chairperson GSI Kerala branch-Dr. K.Hari, Scientific Committee Chairperson Dr. Balakrishna Valliyot, Organizing Chairperson Dr. Anita Nambiar, Prof. & HOD Geriatrics, Amrita Institute of Medical Sciences, Dr.Priya Vijayakumar

Inauguration of Scientific Sessions – Dr. Beena K.V, Additional Medical Superintendent Amrita Institute of Medical Sciences, Kochi

Prof. (Dr) Purna Chandra Dash (Prof. Hi-Tech Medical College, Bhubaneswar) gave a talk on Decoding Aging: Cellular pathways and the science of longevity

Welcome Address by Dr. K. Hari, Chairperson GSI Kerala Branch

Prof. (Dr) Purna Chandra Dash (Prof. Hi-Tech Medical College, Bhubaneswar) gave a talk on Decoding Aging: Cellular pathways and the science of longevity

Dr. Kauser Usman (Prof. Internal Medicine, King George's Medical University, covered the topic – Caregiver burden and stress

Dr. Sandeep Tamane (Vice President GSI), talked about Medication Management in the Elderly: Addressing Polypharmacy challenges

Dr. Sajesh Asokan, Dr. Anita Nambiar,Dr. Bhagyashree Panda, Dr. Sandeep Tamane, Dr. Dina Bandhu Sahoo, Dr. P.C. Dash

Dr. Anita Basavaraj (Prof & Head of Medicine Dept, CSM Govt Medical College and Hospital, Maharashtra) highlighted on 5M of Geriatric Medicine – Medications, Mind, Mobility, Multi complexity & what Matters most. Chairpersons : Dr. Partha Ray & Dr. Sandeep Tamane

Panel Discussion on Community Geriatrics – Implementation of age – friendly systems through local Self Governance. Prof. Dr. Partha Ray, Dr. Amrita Kansal, Dr. P.P Balan, Dr. Pretesh R Kiran, Dr. Praveen G. Pai, Dr. Arun Bhatt

Dr. Amrita Kansal (WHO South – East Asia Regional Office)

Dr. Vivek Redkar (Faculty, Redkar Hospital and Research Center), gave a talk on topic The Reclaim Model : Redefining Elder Care with Quality life – Enhancing approaches in Medical Homes

Dr. S. Ramdas (Ramdas Hospital, Perinthalmanna), highlighted on Nutrition in the Elderly

Dr. Shaji K.S, Dean (Kerala University of Health Sciences), talked about Research in Geriatrics and Gerontology – Collecting evidence to promote healthy aging.

Dr. Balakrishnan Valliyot (Scientific Committee Chairperson, Prof. of Medicine, Head of Centre for Medical Research & Non Communicable Diseases), spoke on Artificial Intelligence in Geriatric Care.

Dr. Kaushik Das & Prof. Dr. R. Krishnan

Dr Antarikhya Bordoloi, Multi Resistant Antibiotics in Elderly

Chairpersons : Dr. Taruni Nganghbam, Dr. Madhu N.S

Public Interaction GSI, CEDAC India, WHO and Public Officials

Dr. Haroon H - Withdrawal of Life Support in Terminally ill patients

Dr Vijayalakshmi Subramaniam -Sounds of Hope : Music Therapy as a beacon for Neurodegenerative conditions

Dr. Biju Raghavan - Empathy in Doctor – patient Communication : Practical Aspects

Geriatric Dentistry – Symposium, The Importance of Oral Health & Rehabilitation in the Elderly Amidst Medical Challenges

Dr. George P. John, Dr. Asha Narde, Dr. Smita Athavale

Dr. P.S Shankar – Patron GSI Respiratory Sarcopenia

Prof. Dr. R Krishnan - Challenges in Geriatrics : Is Assessment different from the Young ?

Wing Cmdr. Surendra Kumar Jain Memorial Oration. Dr. O.P. Sharma

Dr. J.K Sharma - Tailoring Diabetes Therapy : Role of Degludec and its Coformulation

GSI Inauguration by Patron GSI Kerala, Dr.K.P. Paulose

Welcome Address by Organizing Chairperson Dr. Anita Nambiar

Scientific Committee Chairperson Dr. Balakrishnan Valliyot

GSI National Patron Dr. V.K Arora

Book Release – Principles & Practice of Geriatric Medicine 2025

Book Release – Handbook of Geriatrics – Dr. A.K Singh

Release of GSICON 2024 Conference Souvenir

Dr. K.P. Paulose Honoured with a Lifetime Achievement Award & Honorofic Geras Award

Chairman GSI Kerala, Dr. K.Hari was Honoured

National Secretary GSI, Dr. O.P. Sharma was Honoured

Millennium Lecture
Integrating Palliative Medicine in Geriatric Care – Padmashree Dr. M.R. Rajagopal

Presidential Oration
Dr. P.S. Shankar & Smt Ambika Shankar Oration – Dr. Sajesh Asokan

Dr. Priya Vijayakumar – Frailty uncovered Understanding Assessing & Addressing Elderly Vulnerability

Dr. P. Gopikumar IMA speaks on IMA National Schemes for Doctors.

Dr. M.E. Yeolekar – Management of Hypertension in the Eldely : Insights from the Latest Clinical Guidelines

Dr. Prabha Adhikari – Septic coagulopathy in elderly – diagnostic & therapeutic challenges

Dr. Navneeth Wadhwa – Aging and Disability – A Bidirectional Connect

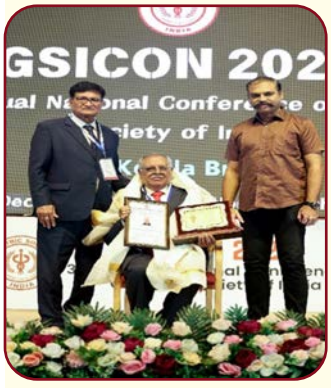
Standing Ovation for Dr. O.P. Sharma during GB Meeting

Certificate Course attendees Certificate distribution – One of the attendees with Dr. Aswin Surjit with President Elect GSI Dr. Atul Kulshreshta and Course Editor Dr. A.K. Singh

Convocation – GSI Fellows

Dr. Santosh Kumar Swain – Multi – speciality approach to Geriatric Care

Entertainment Programme



Dr. B.C Bansal & Smt. Uma Bansal Oration
Prof. Dr. N.K. Magu

Dr. Divyamol K. Sasidharan – From Prevention to Protection : Tackling falls in Aging

Dr. Bhawana Painkra – Peri – operative Management of Fragility Fractures in Older Adults

Dr. O.P. Sharma & Smt. Shanti Sharma Oration Dr. Vivek Handa

First Dr. N.N. Asokan Memorial GSI Kerala Lecture Dr. Jothydev Kesavadev

Dr. Anand Ambali – Elder Abuse Prevention: Ensuring dignity & safety in aging

Dr. N.N. Prem – Geriatric Oncology – A new Frontier

Dr. Anupama Murthy – Managing respiratory disease in the Elderly : Challenges & advances in Geriatric Pulmonology

Dr. Sajith Kumar R – Vaccination in the Elderly

Dr. Jino Joy – Home based Interventions for Dementia: Insights from the 'Ease Dementia' model

With Registration Management partners – Day Dreams

PG Programme

Dr. Ashish Rajan – Hyponatremia in elderly – Navigating the balance health & hydration

Quiz Master – Dr. Jino Joy

GSICON 2024 Valedictory Function

News from Kochi

REPORT ON WORKSHOP CONDUCTED AT GSICON 2024@ KOCHI

The Workshops conducted at GSICON 2024 were oriented at basic as well as innovative concepts. There were workshops conducted by eminent faculty and covered the following topics.

General Geriatric Assessment or CGA, Falls and Falls Prevention, Geriatric Critical Care, Geriatric Sleep Disorders and a full day workshop on Geriatric Emergencies. Additionally, there was a full day workshop for nurses and allied health workers. All workshops were accredited by the KSMC.

The workshop on Comprehensive Geriatric Assessment was conducted from 9 am to 1 pm at Aries Hall of IMA Kochi. The well attended workshop was conducted by eminent faculty from the Department of Geriatric Medicine Amrita Institute of Medical Sciences Kochi. The expert faculties included Dr. Priya Vijayakumar, Professor and HOD of Geriatric Medicine, Dr. Divyamol Sashidharan, Associate Professor of Geriatric Medicine, Dr. Anusree A.S., Dr. Pallavi Mohan, Dr. Asmi Sanil, Dr. Arth Nishcal and Ms. Nivedita and Ms. Shilpa. The workshop started with the introductory talks on CGA followed by understanding Comprehensive Geriatric Assessment, Key Components of CGA, Practical Applications, Interdisciplinary Approach to CGA. It concluded with a question & answer session and closing remarks.

This was followed by the workshop conducted by from 2 pm to 5 pm on Falls and Fall Prevention by the Geriatric Medicine Department of Amrita Institute of Medical Sciences Kochi. The workshop started with the introductory talks on Fall Assessment, Falls Assessment followed by Understanding Falls in Older Adults, Comprehensive Fall Risk Assessment, Interventions for Fall Prevention, Collaborative Approach and Resources. It concluded with a wrap-up and evaluation session.

The workshop on Geriatric Critical Care was conducted from 9 am to 1 pm at the Chancellor Hall of IMA Kochi. The workshop was well attended by 32 doctors. It was conducted by eminent faculty from the Indian Society of Critical Care Medicine, Kochi branch. The expert faculties included Dr. Mohan Mathew, Dr. Jacob Varghese, Dr. Anurug Balagopal, Dr. Srivalsan T.V, Dr. Melvin George, Dr. Tinith Ansari, Dr. Ranjith Unnikrishnan, Dr. Jojo Kurien John, Dr. Kuku Sarah Kuruvilla, Dr. Neeta George, Dr. Sandhya. The workshop started with the introductory talk on Geriatric critical care followed by fluid resuscitation in geriatric critically ill patients. It also covered electrolyte disturbances in geriatric ICU patients, delirium in geriatric

ICU patients. The stations were covered where HFNC, non-invasive ventilation, ventilation basics, ventilation in COPD and ARDS. It concluded with a question & answer session and closing remarks discussion.

The workshop on Geriatric sleep medicine-The essentials. This workshop was conducted from 2 p.m. to 5.30 p.m. at chancellor hall of IMA house Kochi. The workshop was well attended and was conducted by Dr. Nitika Dang of Nao Health, New Delhi. The workshop started with the introductory talk on Geriatric sleep medicine followed by understanding sleep changes with aging, sleep disorders in the elderly both OSA, insomnia as well as RLS, patient hookup for overnight PSG, hands-on training, circadian rhythm and aging, impact of sleep on physical health, mental health and sleep, sleep and cognitive decline. It concluded with a question & answer session and closing remarks with discussion.

The workshop on Geriatric emergencies was conducted as part of the geriatric society of India's 37th national annual conference. It was held at Aura hall of IMA house and was conducted by a panel of eminent faculty led by Dr. Pratibha Pereira professor and HOD

department of Geriatrics JSS medical college, Mysuru, Dr. Varsha Reddy of senior Geriatrician specialist from UK and Dr. Vimal Krishnan professor of emergency medicine at KMC Manipal and Dr. Ajit Venugopal HOD of trauma care at Caritas hospital, Kerala. The workshop was conducted from 9 a.m to 4.30 p.m and was well attended. The topics covered included an Introduction and a pre-test approach to geriatric medicines with an overview of physiological changes in the elderly. Following, briefing and demo code after which delegates were rotated dividing into three groups for stations with skill stations of 60 minutes covering respiratory, cardiovascular, CNS cohort and communication skills and also a falls cohort. In the post-lunch session the group rotations were completed followed by a session on airway management in geriatric emergencies. The workshop closed with a feed-back and a discussion session.

The workshop on nursing and workshop for nursing and allied health professionals was conducted on 13-12-2024 from 9 a.m. to 5 p.m. at Athena Hall of IMA Kochi. The workshop was well attended by 42 nurses and allied health professionals. The expert faculties included Dr. Bobby Sarah Thomas, Professor Nitin Elias, Professor Sunil Muthedath, Professor Sridevi, Mr. Vipin Paul, Ms. Sheeba Jose. The workshop started with an introductory talk on nursing and allied health care, followed by optimizing nutrition and hydration for the aging patient,

prevention and treatment of pressure ulcers or bed sores in older patients, effective communication strategies with elderly patients with cognitive impairments or dementia, catheter care, colostomy care and tracheostomy care. There was also a session on care of bedridden patients including oral care and head to foot care. It concluded with a question & answer session with closing remarks and discussion.

News from Vijayapura

SEMINAR ON WORLD COPD DAY 2024: "KNOW YOUR LUNG FUNCTION"

The Department of Geriatrics at Shri B. M. Patil Medical College, Hospital & Research Centre, Vijayapura, in collaboration with the Geriatric Society of India, hosted a seminar on World COPD Day 2024. The event, themed "Know Your Lung Function," took place on November 20, 2024, at 11:00 AM in the Seminar Hall of the Geriatrics OPD. The seminar featured a series of informative sessions led by experts in the field, including Dr. Karthik S, who discussed the introduction and pathophysiology of COPD, and Dr. Kushal Bhangle, who covered the clinical features of the disease. Dr. Saurav Suresh presented on investigations, while Dr. Harini T focused on treatment options. Dr. S M Biradar spoke about newer pharmacotherapies, and Dr. Muddasir Indikar highlighted the importance of vaccines in patients with COPD. Dr. Basavaraj Chandu discussed the role of physiotherapy in managing the condition. The seminar concluded with a Question and Answer session, allowing participants to engage with the speakers. Dr. Aniruddha Umarji, Associate Professor, served as the Chairperson for the event, while Dr. Md Abrar Ul Huq and Dr. Muddasir Indikar acted as moderators. This seminar aimed to enhance awareness and understanding of Chronic Obstructive Pulmonary Disease (COPD) among healthcare professionals and students, fostering better management and care for the elderly population.

World Pneumonia Day 2024 Celebrated By The Department Of Geriatrics at shri B. M. Patil Medical College, Hospital & Research Centre.

The Department of Geriatrics at Shri B. M. Patil Medical College, Hospital & Research Centre, celebrated World Pneumonia Day on November 12, 2024, with a seminar themed "Championing the Fight to Stop Pneumonia." The event took place in the Geriatric Seminar Hall from 3:30 PM to 5:00 PM and aimed to raise awareness about pneumonia, particularly in the elderly.

Dr. Anand P. Ambali, Professor and Head of Geriatrics, welcomed the attendees and chaired the event. The seminar featured a series of informative presentations by faculty members, including Dr. Kushal Bhangle, who discussed Introduction and Epidemiology, and Dr. Harini T, who covered Pathophysiology. Dr. Sagarika Suresh presented on Clinical Features, while Dr. Karthik S focused on Investigations and Treatment. Dr. Ambali also emphasized the prevention of Community-Acquired Pneumonia (CAP) and Ventilator-Associated Pneumonia (VAP). Additionally, Ms. Meghana S spoke about vaccines to prevent pneumonia, and Dr. Basavaraj Chandu provided practical tips for physiotherapy in pneumonia management.

The seminar concluded with a Question and Answer session, allowing participants to engage with the speakers and clarify their queries. The event was coordinated by the Departments of Geriatrics, Respiratory Medicine, and Physiotherapy, highlighting a collaborative effort to enhance awareness and prevention strategies for pneumonia among healthcare professionals and students.

News from Mumbai

Guest Lecture on End of Life Care Held by the Department of Geriatrics

The Department of Geriatrics, in association with the Geriatrics Society of India, organized a guest lecture on September 27, 2024, from 4:15 PM to 5:30 PM at the Dr. B. C. Roy Seminar Hall, Department of General Medicine. The topic of discussion was "End of Life Care." Dr. Sucheet Avanti, Associate Professor from MGM Medical College, Navi Mumbai, served as the guest speaker. During the session, Dr. Avanti elaborated on the concepts of End of Life Care and Palliative Care, providing real-life examples to illustrate his points effectively. The session was chaired by Dr. S. N. Bentoor, Professor and Head of the Department of General Medicine.

A total of 38 students participated in the program, engaging actively with the speaker and gaining valuable insights into this critical aspect of geriatric care.

News from Karnataka

Webinar on Sirtuins and its Role in Longevity

Dr. Sachin Desai, Professor in the Department of Community Medicine and In-Charge of the Geriatric Clinic at SNMC & HSK Hospital and Research Centre in Bagalkote, Karnataka, was active in various significant initiatives from September to October 2024. He delivered a guest talk at the National Institute of Health and Family Welfare (NIHFW) in New Delhi, where he discussed the role of music therapy for health professionals, highlighting its potential benefits in enhancing healthcare delivery. Additionally, Dr. Desai successfully completed a Certificate Course in Music Therapy for Health Professionals from Yenepoya University in Mangalore, further enriching his expertise in this area.

On October 1, 2024, in celebration of the International Day of Senior Citizens, the HSK Hospital Geriatric Clinic in Bagalkote was inaugurated. The inauguration ceremony was attended by prominent figures, including Dean Dr. B. C. Yelamali, Medical Superintendent Dr. S. A. Kora, Dr. Naveen Charantimath, and Dr. Kadappa Jaligidad, along with Dr. Desai himself and Dr. Gopal Bajaj, Head of Internal Medicine. This new clinic aims to provide specialized care for the elderly, reinforcing the commitment of HSK Hospital to improving geriatric healthcare services in the region.

LETTER TO THE EDITOR

Adarsh S[1], Haroon H[2]

Dear Editor,

We recently had the privilege of attending the National Annual Conference of the Geriatric Society of India held in Cochin. The conference provided a valuable platform for knowledge exchange and fostered a dynamic environment for discussing the evolving landscape of geriatric care. We extend our sincere appreciation to the organizing committee for their meticulous planning and execution of this enriching event.

The conference highlighted the critical importance of interdisciplinary collaboration and innovative approaches in addressing the multifaceted needs of our aging population. The number of people aged 80 years or older is expected to triple between 2020 and 2050 to reach 426 million , as per WHO.[1] The Indian healthcare system is already overburdened, and the elderly population is expected to bear nearly half of India's disease burden by 2030.[2] Compared to Western countries, relatively few programs are offered in clinical and public health geriatrics in India. This is further compounded by an insignificant thrust of geriatrics in undergraduate health professional curricula.[3]

Reflecting upon this, we believe that proactively engaging undergraduate medical students in the field of geriatric care is crucial for cultivating a future generation of 'Physicians of first contact of the community" ,as mentioned in NMC GMER 2023 guidelines. To this end, we humbly propose the following suggestions:

1. DEDICATED UNDERGRADUATE CONTRIBUTIONS IN THE JOURNAL:

We recommend dedicating a section in each issue of the Indian Journal of Geriatric Care to showcase original work from undergraduate medical students.

This section could feature articles, case reports, or reflective essays on topics such as innovative geriatric care models, personal experiences with elderly patients, or unique perspectives on ageing-related challenges.

This platform would not only encourage research and critical thinking among students but also provide valuable exposure and recognition for their contributions.

The journal could actively solicit submissions through nationwide calls and provide guidance from faculty mentors to support student authors.

2. UNDERGRADUATE COMPETITIONS AT THE NATIONAL CONFERENCE:

a) Geriatric Hackathon

We propose the inclusion of engaging competitions, such as a "Geriatric Hackathon," at the annual conference.

Teams of undergraduate students could be presented with a real-world challenge related to geriatric care (e.g., improving medication adherence, designing inclusive community spaces for seniors).

Teams would have a set timeframe to develop innovative solutions, which could include technological interventions, policy recommendations, or administrative strategies.

A panel of experts would evaluate the solutions based on creativity, feasibility, impact, and sustainability.

The winning teams could be awarded prizes and invited to present their solutions at a dedicated session during the conference, fostering a sense of accomplishment and inspiring future generations.

b) Geriatric Undergraduate Quiz

A dedicated quiz for undergraduates, including interns, could help them cultivate an interest in geriatrics.

[1]Junior Resident, Department Of Internal Medicine KMC Hospital Dr B Ambedkar Circle Mangalore
[2]Department of Internal Medicine, Kasturba Medical College Mangalore, Manipal Academy of Higher Education, Manipal, Karnataka, India.

c) Social media platform for GSI

An active social media page (Instagram/X, formerly Twitter) with relevant academic information related to patient care can improve the outreach to the general public, not restricting it to the medical fraternity.

By implementing these initiatives, the Geriatric Society of India can effectively engage undergraduate students, cultivate their interest in geriatric care, and empower them to become future leaders in this vital field. We humbly believe that investing in the education and engagement of young minds will significantly contribute to the advancement of geriatric care in India.

Thank you for your valuable time and consideration. We look forward to continued collaboration in advancing the field of geriatric medicine.

Sincerely,
Dr. Adarsh S, Dr. Haroon H.

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OBITUARY

A Tribute to Syed Shah Khusro Hussaini (1946-2024)

It is with profound sadness that we announce the passing of Syed Shah Khusro Hussaini, Sajjada Nashin of the Dargah of Khwaja Banda Nawaz Gesudaraz in Kalaburagi, who left us for his heavenly abode on 6 November 2024. Born on 10 September 1946, he was a distinguished Sufi scholar, poet, author, and philanthropist, whose contributions to society were immeasurable.

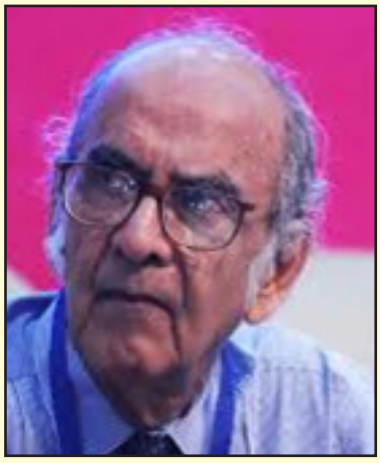
Dr. Hussaini served as the President of the Khaja Education Society and Chancellor of KBN University, where he played a pivotal role in advancing healthcare and education, particularly in the realms of Islamic education and Sufi teachings. His educational journey included studies at Osmania University and McGill University, culminating in a doctorate in Sufism from Belford University, USA. He was also honored with an honorary doctorate from Gulbarga University and received the Rajyotsava Award from the Government of Karnataka for his exceptional contributions.

A Vice-President of the All India Muslim Personal Law Board, Dr. Hussaini was deeply committed to promoting the values of education and healthcare within his community. He was instrumental in the establishment of the Institute of Medical Sciences and the development of KBN University, leaving a lasting legacy in the educational field.

His unwavering support for the activities of the Geriatric Society of India (GSI) will be fondly remembered, and his loss has created a significant void in our community. Syed Muhammad Ali al Hussaini, his son, has taken on the responsibility of guiding the Dargah, Society, and University, ensuring that his father's vision and teachings continue to inspire future generations.

The Geriatric Society of India extends its heartfelt condolences to the bereaved family during this difficult time. Dr. Hussaini's legacy will live on through his contributions and the lives he touched.

P.S. Shankar
Patron
Geriatric Society of India



OBITUARY

Dr. G. S. Sainani (Padma Awardee)

We pay homage to our Past President
Dr. G. S. Sainani.
Members of GSI.

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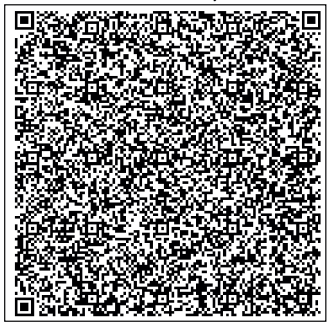

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ANNOUNCEMENTS

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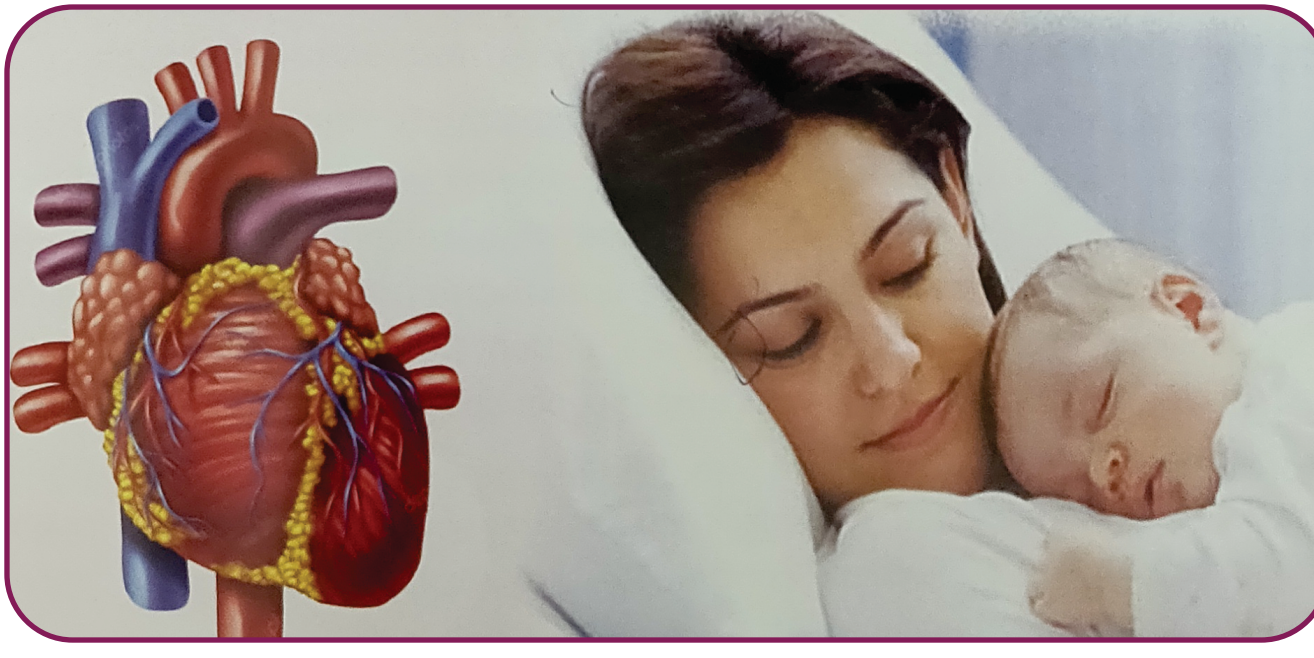

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