DISSERTATION SUBMITTED FOR THE MASTER'S DEGREE IN MEDICAL MICROBIOLOGY

TITLE

CO-RELATION OF COMMON INFECTION IN OLD AGE PATIENTS – A META ANALYSIS

SUBMITTED

BY

SMRITI TIWARI

2022

DEPARTMENT OF MICROBIOLOGY

INTEGRAL INSTITUTE OF MEDICAL SCIENCES & RESEARCH

INTEGRAL UNIVERSITY

DASAULI, KURSI ROAD, LUCKNOW-226026, U. P.

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A

DISSERTATION

Submitted to

INTEGRAL UNIVERSITY

In partial fulfillment of the requirements for the award of degree of

Masters of sciences

In

Medical Microbiology

By

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I hereby declare that this dissertation entitles **CO-RELATION OF COMMON INFECTION IN OLD AGE PATIENTS – A META ANALYSIS** is bonafide and genuine research work carried out by me under the guidance of **Dr. Tasneem Siddiqui** Assistant Professor, Department of Microbiology and Co-guide **Dr. Ausaf Ahmad** Associate Professor, Department of Community Medicine, Integral Institute of Medical Sciences and Research, Lucknow.

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This is to certify that research work entitled **"Co-Relation of Common Infections In Old Age Patients- A Meta Analysis"** submitted by **Smriti Tiwari, Dr.Tasneem Siddiqui, Dr.Ausaf Ahmad** for ethical approval before the Institutional Ethics Committee IIMS&R.

The above mentioned research work has been approved by Institutional Ethics Committee, IIMS&R with consensus in the meeting held on **19 May 2022**.

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ACKNOWLEDGEMENT

I take this opportunity to extend my sincere gratitude and appreciation to all the helping hands who made my dissertation work a huge success.

Thanks to the **Almighty God** for giving me strength and energy to finish this study.

I am thankful to the **Integral University, Lucknow** for providing the opportunity, laboratory equipment, materials, and its valuable support, to complete this study.

First and foremost, I am extremely thankful to **Dr. Noor Jahan**, Professor and Head, Department of Microbiology, IIMS&R, whose benevolent guidance and constant encouragement helped me a lot doing my dissertation.

I express my heartful gratitude and regards to our esteemed teacher and my guide **Dr. Tasneem Siddiqui,** (Assistant Professor) Department of Microbiology and co-guide **Dr. Ausaf Ahmad**, Associate professor, IIMS&R, for providing excellent guidance, motivation and keep interest in my dissertation. It was a great opportunity and wonderful experience to work under her supervision.

I express my heartiest thanks to, **Dr. Mohd. Saquib** (Assistant Professor), **Mrs. Sandeepika Dubey**, **Dr. Karuna Katiyar**, Faculty members, Department of Microbiology, IIMS&R for their ready to help, support and guidance.

I am highly thankful to **Dr. Ausaf Ahmad** Associate Professor, Department of Community Medicine for his kind interest, valuable guidance and statistical analysis in the dissertation work.

I am also thankful to **Mr. Salman**, **Mr. Dheeraj**, **Mr. Dhirendra**, **Mr. Mohsin, Mr. Vishnu** for providing laboratory facilities and guidance during the period of work.

I would also pay my special thanks to my batchmates **Pooja Chauhan, Pushpendra Pathak,** and **Mohd Areeb.** for their continuous help and co-operation during the period of work.

Finally, Special thanks to my family, Father- Sri. **Dinesh Kumar Tiwari,** Mother- **Smt**. **Vasundhara Tiwari** and Brother- Mr. **Vishal Tiwari** and sister **Shruti Tiwari** also thanks to my entire family members who encouraged me to believe in hard work and not to worry about the results.

DATE: 15/07/2022 **SMRITI TIWARI**

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INTRODUCTION

INTRODUTION

The development of ageing within the world population has resulted in a rise within the populace of individuals 60s and adults over the age as a results of lower mortality rates thanks to advances in improvements in health care, professional training, and as a result, a rise in life and longevity **[1-4]**.

As the older population grows, people are at risk of a variety of physiological, socioeconomic, and economic problems as well as chronic conditions such as diabetes, cardiovascular, joints, and musculoskeletal diseases **[3,5]**. Deterioration of bone tissue disorder is an abnormality of bones indicated by reduced bone mass and high risk of fractures.

Aging is related to variety of physiological changes in addition as a progressive decline in physiological physiological condition, each of that cause changes in organ functions, practical decline, multimorbidity, and frailty **[5-6]**. Immunosenescence, a term accustomed describe age-related system changes, could have a sway on associate organism's capability to resist external stressors referred. All older adult's expertise immunosenescence to varied degrees, earned immunocompetency is correlate with frailty **[7]**. Enhanced status to infections, malignancy, response disorders, and impaired wound healing happens because the system ages and its traditional ability to defend against infections, malignant cells, and reactive or allergic cells declines **[5,8]**.

As a results of immunosenescence, several older adults have gentle immunological disorder, in addition as age-related organ changes, comorbidities, geriatric syndromes, frailty, deficiency disease, practical pathology, and polypharmacy, all of that have an effect on the prognosis of geriatric patients with infectious diseases **[5,7]**.

The most vital risk issue for the prevalence of the many diseases is age. This aetiology is caused by variety of biological factors, like inadequate nutrition, acute and chronic medical conditions, environmental step-up, isolation, loneliness, and system cutting thanks to inactivity **[9]**. Injury is recovered to take care of haemostasia in cases of cellular and molecular deterioration before maturity. However, as folks age, the repair method slows down or stops altogether **[10]**.

In general, infections area unit a lot of common in older folks than in adolescents. and area unit coupled to medical aid and death **[11-12]**. several explanations are planned for the enhanced rate of infections among old patients, together with co-morbid sicknesses, exposure to instrumentation and procedures, institutionalisation, immunosenescence, deficiency disease, and poor performance standing **[13]**. thanks to pronounced deficiencies in their immune systems and a high prevalence of comorbidities, old patients in establishments area unit a lot of at risk of infections.

Infections area unit the leading reason behind morbidity and mortality within the old, and varied factors like immunosenescence, comorbid chronic diseases, and changes in traditional physiological organ functions could alter the frequency and severity of infection in these patients. Infection can be brought on by a variety of pathogens, the most prevalent of which are viruses and microorganisms. Hosts' immune systems will facilitate them fight infections **[14]**.

Ageing may be a universal development that's related to declining health. no one grows recent just by living a precise variety of years, it is said. sure changes occur in associate organism over time, leading to morbidity, disability, and even death. Populations everywhere the globe have gotten older, due to rising life. The challenge for health care within the coming back years are to make sure the geriatric population's quality of life **[15]**.

The geriatric population is at risk of chronic sicknesses like cardiopathy, cancer, diabetes, contractor disorders, depression, arthritis, urinary organ problems, etc. The prevalence of CVDs among old folks in Asian country is on the increase as a results of longer life expectations and modus vivendi changes. Heart and vessel issues area unit usually mentioned as CVDs, and these embody high blood pressure, heart attacks, strokes, neural structure diseases, peripheral tube-shaped structure diseases, rheumatic heart diseases, inherent heart diseases, and cardiomyopathies **[16]**.

In older adults, infection designation is tougher, however early designation and treatment area unit vital thanks to the upper incidence of morbidity and mortality. several infection-related signs and symptoms that area unit common in younger adults, notably fever and blood disease, seem less ofttimes or not in any respect in older adults **[17,18]**. whereas blood disease is gift in hour of older adults with serious infections, its absence doesn't rule out associate infectious method **[19]**. Elevations in temperature of one.1°C (2°F) on top of baseline temperature ought to be thought to be a febrile response as a result of frail older adults generally have a poorer temperature response. In older adults, fevers on top of the 38.3°C (101°F) ofttimes signify serious, doubtless fatal infections **[18]**.

Most significantly, totally different {completely different} infections cause different symptoms, and a few common symptoms can seem in some seniors however not others counting on factors like overall health and fitness. old patients with infections ofttimes gift with psychological feature impairment or amendment in mental status; in five hundredth of older adults with infections, frank delirium happens. what is more, in older patients, anorexia, practical decline, falls, confusion, loss of craving, fatigue, weight loss, or a small increase in vital sign is also the sole signs of infection. A comprehensive assessment is needed to spot older adults WHO area unit at higher risk of infection **[20]**.

Older adults are more susceptible to infections due to immunosenescence, comorbidity, malnutrition, and social determinants of health (such as living in a nursing home or having limited access to care) **[21]**. One-third of people 65 and older die from an infection as their main cause of death. Additionally, infection significantly increases morbidity in elderly patients, aggravates underlying illnesses, and impairs function. In comparison to older adults without underlying health issues, those with chronic diseases like diabetes mellitus, chronic obstructive pulmonary disease (COPD), or heart failure are more prone to developing common infections and have a weaker immune system **[22]**. In patients older than 65, the age of the patient has a significant impact on the type of infections and associated microbial aetiology **[23]**.

1. Respiratory infections

Pneumonia is a serious infection caused by a pathogen's virulence overpowering the host's defences. Aging is linked to a general decline in organ function, which influences not only an individual's risk of developing pneumonia but also clinical manifestations and outcomes. Older patients are more likely to develop pneumonia due to resistant organisms such as Gram-negative bacillus, making both observational and definitive therapies difficult. The prevalence of respiratory infection rises with age, as does its impact on morbidity and mortality. Mortality rates remain high, particularly among the elderly. Along with influenza, pneumonia is the eighth leading cause of death in the US, accounting for 2.3 % of total deaths in people over the age of 65 **[24]**.

• **Influenza**

Influenza is a widespread respiratory infection that has a major negative impact on the world and significantly increases morbidity and mortality in older people. 80 to 90 percent of influenza-related deaths among adults 65 and older. Because of co-occurring chronic diseases and weakened immunity, older adults are more vulnerable to serious and possibly fatal complications from this common illness. Although, once again, a febrile response may not always be present, the signs and symptoms of influenza infection in older adults are comparable to those seen in younger patients. Rapid onset of symptoms like headache, fever, chills, muscle aches, malaise, cough, and sore throat are typical of influenza. Older adults are more likely to experience complications and may experience a long-lasting weakness that can last for several weeks **[25]**.

2. Urinary Tract Infections

Urinary tract infections (UTIs) are the most common bacterial infection and the leading cause of bacteraemia in older people **[23]**. The use of urethral or condom catheters, as well as neurogenic bladders with increased residual urine, are risk factors for UTIs in older adults. Gender-specific contributing factors include prostate enlargement in men, an increase in vaginal pH, vaginal atrophy caused by postmenopausal oestrogen deficiency, and incomplete bladder emptying in women. These factors promote bacterial colonisation and are likely to contribute to the increased prevalence of asymptomatic bacteriuria and UTIs in the elderly **[26]**.

3. Skin Infections

Infection with herpes zoster caused by reactivation of dormant varicella virus in the dorsal root ganglia is also common in older adults. Herpes zoster is distinguished by skin lesions that progress from discrete patches of erythema to grouped vesicles in a dermatomal pattern that pustulate and crust within seven to ten days. Pain is the most common symptom of herpes zoster, and it can be debilitating in elderly patients. Postherpetic neuralgia affects 10 to 70% of patients and can be difficult to treat **[27]**.

4. Chronic Diseases

Chronic illnesses can make elderly people dependent on ADLs. Disability, psychological disorders, mobility issues, poor cognitive functioning, falling and incidents, wounds and injuries, malnutrition, and communication issues are the main factors that cause ADLs to fail in the elderly **[28]**. Increased chronic disease prevalence (e.g., chronic kidney disease, heart failure, lung failure), combined with physiological changes caused by ageing, frailty, and nutritional issues, leads to an increase in the frequency and severity of infections in geriatric patients **[29,30]**. Another chronic condition that gets worse with age is heart failure. Due to multiple organ system disorders, elderly patients who are hospitalised for the treatment of heart failure are more likely to contract an infection **[31]**. Other more common chronic diseases that older adults face are-:

• Diabetes

The ageing process of the human body causes disturbances in energy homeostasis and carbohydrate metabolism. The most common causes of hyperglycemia are thought to be age-related insulin secretion deficiencies and increasing insulin resistance **[32,33]**. Diabetes in the

elderly is a diverse group with varying life expectancy, the presence of chronic diseases, and the ability to self-control blood glucose or give themselves an injection.

• Osteoporosis and Osteopenia

One of the most serious health risks for the elderly is osteoporosis, troubling more than half of all women over the age of 45 and 90 percent of women over the age of 75. **[34,35]** Osteoporosis is a condition of the skeleton marked by a decrease in the mass/volume of normally mineralized bone. The skeleton is more likely to fracture as a result of the decreased mechanical strength caused by the decreased bone density **[34]**. Fracture is the most significant side effect of osteoporosis, which is a major global public health issue. Hip fracture is one of the main threats to human societies among the various types of fractures, especially in the elderly **[35]**.

Osteopenia: Osteopenia is a term used to describe bone density that is higher than normal but not as low as osteoporosis. The World Health Organization defines osteopenia as a T score of -1 to -2.5 as determined by bone densitometry **[36]**.

• Cancer

Cancer is measured as growth-related disease because the occurrence of most cancers rises with age, becoming more rapid in middle age **[37]**, Some of the biological processes that control ageing may also play a role in the development of growth-related diseases like cancer **[38,39]**. If the ecological factors that influence these biologic mechanisms are taken into account **[40]**. can be altered, the ageing process may be slow down, and the development of cancer may be postponed or even prevented **[41]**.

Alzheimer's disease and Dementia

Dementia is an age-related disease that continues to pose a global public well-being challenge as the world's population ages. The majority of dementia cases develop in old age, with over 90% developing after the age of 60, and 32% developing after the age of 85. **[42,43]**

Alzheimer's disease is a subset of dementia that accounts for the majority of dementia cases **[44]**. Because dementia can be caused by a variety of factors, including depression and vascular disease, this paper focuses solely on Alzheimer's disease **[45]**. Alzheimer's disease causes irreversible brain cell degeneration that impairs thinking ability, resulting in loss of personal identity and changes in behaviour, mood, and ability to perform basic daily living activities **[44,46]**.

- **Hepatitis C virus infection**

The most prevalent blood-borne infection in the US is the Hepatitis C virus (HCV), which is particularly harmful for the elderly. There are now more people with HCV infection who are older and have had the infection for longer. The growing number of older HCV-infected patients presents challenges for clinicians who care for these patients as well as the healthcare system because the long-term consequences of HCV-associated liver disease, such as cirrhosis, hepatocellular carcinoma (HCC), and liver transplantation, are being treated with an increased use of health care resources. Clinicians are now able to successfully treat the increasing number of HCV-infected patients who are older thanks to the introduction of DAA agents for the treatment of HCV infection in 2011 **[47]**.

• Herpes zoster

Older adults are most susceptible to developing herpes zoster (HZ), which is brought on by the latent varicella zoster virus (VZV) reactivating. HZ typically manifests as a self-limited, unilateral dermatomal rash. A common complication is postherpetic neuralgia (PHN), which manifests as excruciating pain that lasts long after the rash has disappeared. It can be extremely crippling and is more common in older age. Elderly HZ management calls for an early diagnosis, antiviral therapy, and sufficient pain management. The primary cause of chicken pox is varicella zoster virus (VZV), a self-limiting condition that primarily affects children and is characterised by disseminated skin lesions. Shingles, also known as Herpes Zoster (HZ), are more common and are caused by the latent varicella zoster virus reactivating **[48]**.

5. Lower back pain

Low back pain (LBP) is one of the most common disabling health conditions among people aged 60 and up. While the majority of causes of LBP in older adults are non-specific and self-limiting, seniors are more likely to develop specific LBP pathologies and/or chronic LBP due to age-related physical and psychosocial changes.

The prognosis and treatment of LBP in older adults may be impacted by a number of age-related physical, psychological, and mental changes (such as spinal degeneration, comorbidities, physical inactivity, age-related changes in central pain processing, and dementia), as well as a number of risk factors (such as genetic, gender, and ethnicity) **[49]**.

6. COVID- 19

SARS-CoV-2, a brand-new coronavirus, first appeared in China's Hubei province in December 2019. From there, it quickly spread throughout the globe before being deemed a global pandemic on March 11, 2020 **[50]**. The respiratory illness triggered by the 2019 coronavirus

disease (COVID-19) infection is primarily spread through direct contact and respiratory droplets **[51].**

The mortality rate increases significantly in the age groups over 60 years old with SARS-CoV-2 infection. Over 800 million people worldwide will be included in this vulnerable group because more than 12 percent of the population is over 60 **[52]**. Atypical clinical features are also seen in older patients, and patients with respiratory infections may present with fatigue, anorexia, and delirium in the absence of fever and productive cough **[53,54]**. COVID-19 has a high mortality, critical illness, and a high percentage of patients with severe disease rate in the elderly population **[55]**.

Managing infections in critically ill, elderly patients is a difficult task. For the past decade, the primary focus in infectious disease has been on young adults with infection and complications related to the human immunodeficiency virus; however, the vast majority of serious infectious disease will be seen in the elderly population. Because several non-infectious complications in the elderly can alter the course and severity of infections, a comprehensive management strategy is required **[56]**.

Healthcare professionals should be aware of these changes and the unique characteristics that older adults' illness presentations, particularly now that the growing geriatric population is being referred to as the "geriatric demographic imperative." The prevention, early diagnosis, and treatment of infections and other illnesses will be made easier with the knowledge of age-related changes and their treatable effects, ultimately leading to better clinical outcomes in this population **[57]**.

REVIEW

OF

LITERATURE

REVIEW OF LITERATURE

In study of Hassan Nourmohammadi et al, the study's looks into the incidence of osteoporosis and low bone density in Iranians over the age of 60. Since the elderly are one of the most susceptible populations to this condition, osteoporosis prevalence in those over 60 years of age was 34% (95% CI: 27, 42%) and low bone density prevalence was 47%. (95 percent CI: 41, 53 %).

Compared to women, men are more likely than women to have osteoporosis. Hips were shown to have the highest frequency of osteoporosis, while lumbar spines had the highest prevalence of osteopenia. Exercise and following a healthy and balanced diet are encouraged due to the high frequency of osteoporosis and bone fractures in senior individuals. This allows them to obtain calcium, vitamin D, and other essential nutrients **[58]**.

In a study of Nobuhiko Fukuda et al, this study sought to examine the clinical features of hospitalized older persons who had pneumococcal pneumonia. The previous investigation found that low performance status, hypoalbuminemia, metabolic acidosis, tachypnea, and high urea nitrogen were all linked to pneumonia mortality. Mortality was frequently associated with hypoalbuminemia ($p=0.15$) and poor performance status ($p=0.08$).

It is important to control and maintain health in daily life before the development of pneumonia since anti-pseudomonal antibiotic use, A-DROP scores, pH, and $PaCO_2$ of ABG analysis were the risk factors of mortality for CAP. Healthy eating has been shown to reduce the occurrence of pneumonia **[59]**.

In a study of Chevonne Bruno et al, Dehydration is a complicated condition that causes a decrease in total body water. It is the most common fluid and electrolyte complication in the elderly, especially when they are hospitalised. Lower hydration levels are linked to higher rates of acute confusion, constipation, urinary tract infections, exhaustion, falls, and delayed wound healing, all of which increase the risk of morbidity and mortality due to dehydration. Because of age-related physiological changes such as decreased thirst sensation and impaired renal function, it is commonly found in older adults.

An increase in fluid intake of at least 1.7 litres every 24 hours, making healthy drinks and water easily available and accessible at all times, and reminding and encouraging people to drink large amounts of fluids all at once rather than small amounts throughout the day **[60]**.

In study of Sunny Singhal et al, an extensive portion of patients with severe disease, critical illness, and a high COVID-19 mortality rate in the elderly population are all examined. In older patients, fever (83 percent), cough (60 percent), and dyspnea were the most prevalent symptoms (42 percent). More people (56%) had dry cough than productive cough (28 percent). One in five older COVID-19 patients are critically ill, 50% of them have severe infection, and 10% pass away. To investigate outcomes in this at-risk patient population and the factors influencing these outcomes, more high-quality evidence is required **[61]**.

In a study of Kristina Norman et al, the risk of nutritional risk or malnutrition is highest in older adults, and disease is the most common factor contributing to it because both acute and chronic illnesses can cause or worsen malnutrition. Involuntary weight loss or a low body mass index are two signs of malnutrition in the elderly, but it can be more challenging to detect hidden deficiencies like micronutrient deficiencies.

There are three phenotypic criteria for malnutrition: weight loss (>5% within the last 6 months, or >10% beyond 6 months), low body mass index (BMI) (20 kg/m2 if 70 years, or 22 kg/m2 if >70 years), reduced muscle, and two etiologic criteria: reduced food intake or assimilation (50 percent of energy requirements >1 week, or any reduction for >2 weeks, or any chronic gastro-intestinal condition that adversely impacts. It is proposed that the presence of at least one phenotypic and one etiologic criterion be used to diagnose malnutrition, and that different thresholds of the criteria be used for severity grading of malnutrition in a second step. Along with other crucial nutrients, deficiencies in calcium, vitamin D, vitamin B12, iron, magnesium, and zinc are also linked to aging-related changes. Of the 1079 older study participants, 52.0% had low levels of vitamin D (50 nmol/L), 27.3% had low levels of vitamin B12 (221 pmol/L), 11.0% had low levels of iron (men 11.6 mol/L, women 9.0 mol/L), and 8.7% had low levels of folate (13.6 nmol/L). In order to prevent malnutrition and sarcopenia, adequate protein intake is essential. Protein requirements are typically higher in older age (1.0-1.2 g/kg body weight) **[62]**.

In a study of Maguerite M conley et al, obesity and chronic nephropathy (CKD) square measure widespread worldwide, leading to vital aid prices. Overweight and obesity square measure outlined as "abnormal or excessive fat accumulation that poses a health risk" and square measure ordinarily outlined by a body mass index (BMI) measure (WHO 2017). A BMI of quite 25 kg/m2 is taken into account overweight, and a BMI of quite 30 kg/m2 is taken into account fat.

CKD is outlined as "three months of urinary organ injury, as outlined by structural or useful abnormalities of the urinary organ, with or without decreased glomerular filtration rate (GFR) or a GFR of 60 mL/min/1.73 money supply for 3 months, with or without kidney injury."

With relevancy overweight and fat adults with CKD, as well as those with end-stage nephropathy (ESKD) receiving certificatory care, dialysis, or a urinary organ transplant, this review sought-after to assess the effectualness and safety of deliberate weight loss interventions **[63]**.

In a study of Anthony Damiot et al, this review explores the prejudicious effects of physical inactivity on immune health in addition as analysis suggesting that partaking in regular physical activity will facilitate mitigate a number of the negative effects of social isolation.

To control the unfold of the severe acute metabolism syndrome coronavirus 2 (SARS-CoV-2) worldwide, social distancing has been enforced. Social isolation is probably going to lead to a decrease in physical activity, which can cause system disfunction, increasing infection condition and intensifying the pathophysiology of conditions common in older adults, like upset, cancer, and inflammatory disorders.

The characteristics of the host reaction have a major impact on the severity of the unwellness, that isn't solely caused by virus infection. In fact, SARS-CoV-2 infection and respiratory organ cell necrobiosis cause a local immune response **[64]**.

In the study of Himani Nanda et al, the prevalence of CVDS in India's male and feminine geriatric populations was calculable to be 38% and 49%, severally. These high prevalence rates necessitate certificatory interventions for CVD prevention and early detection within the geriatric population. It's essential to produce geriatric health services at primary health care centres, in addition as raise senior people's awareness of health, diseases, and health care facilities, so as to boost their quality of life **[65]**.

In a study of Ting Shi et al, the study sought-after to spot all case-control studies conducted since 1996 that looked into the potential role of metabolism viruses within the aetiology of ARIs in older adults over the age of 65.

Respiratory syncytial virus (RSV),), influenza virus (Flu), parainfluenza virus (PIV), human metapneumovirus (HMPV), adenovirus (AdV), rhinovirus (RV), bocavirus (BoV), and coronavirus (CoV) are essential causes of ARI in older adults, and quantitative estimates of absolutely the proportion of virus-associated ARI cases that may be attributed to infectious agent cause square measure unwellness burden estimates ought to take under consideration the reportable AFE estimates (for older adults) **[66]**.

In a study of Bradly Ackerson et al, the respiratory syncytial virus (RSV) could be a leading reason for serious disease within the senior. The comparison of RSV and influenza infection in hospitalised senior individuals might raise awareness of the adult RSV disease burden.

In older hospitalised adults, RSV infection might cause a lot of morbidity and mortality than influenza. Patients admitted to the hospital with RSV infection were slightly older (mean age, 78.5 vs 77.4 years; P =.035), with a better proportion of these aged 85 years compared to those admitted to the hospital with influenza infection **[67]**.

In a study of Petra Maresova et al, chronic diseases will cause ADL reliance in adulthood. Disability, psychological disorders, quality issues, poor psychological feature functioning, falling and incidents, wounds and injuries, deficiency disease, and communication issues square measure the foremost common causes of ADL malfunction within the senior.

This scoping review backs up the notion that chronic diseases in adulthood square measure a complicated issue. Preventing the results of chronic diseases and different limitations related to ageing necessitates many-sided interventions. one among the foremost necessary parts of such interventions ought to be the first detection of issues that cause incapacity and ADL dependence **[68]**.

In a study of Mert Esme et al, managing infections in severely sick, senior patients could be a terribly advanced issue. The study disclosed that out of infected patients whom comprised 51.4% of the entire cohort, virtually (48.7%) were aged 65 and older. There was no distinction in unwellness severity among age teams (18–44, 45–64, 65–74, 75–84, ≥85), however, ≥85 years aged was Associate in Nursing freelance risk issue for admission to the intensive care unit and hospital mortality. It's been shown that patients United Nations agency square measure older than 85 had fewer blood and central nervous system infections, however a lot of intraabdominal infections as compared to younger patients **[69]**.

In a study of Isaac M. Danata et al, obesity and overweight in older individuals don't seem to be protecting against dementia risk, according to the study. As a result of these chronic conditions in older age square measure associated with incident dementia, there square measure indirect effects of overweight and obesity in older age on dementia via different chronic conditions, such as diabetes. Thus, even in adulthood, dominant bodyweight might facilitate to preventing incident dementia **[70]**.

In a study of Oghenekome A. Gbinigie et al, atypical symptoms in older adults with microorganism skin infections will create diagnosing troublesome. The skin of older adults is a lot of vulnerable to microorganism infections because of a mixture of things like immunosenescence, that is age-related immune disfunction and inability to mount an adequate response to unhealthful insults, and age-related dilution of the skin.

Cellulitis, a soft tissue and skin infection, is common within the senior. Skin infection predictors in older outpatients suggests that the presence of pressure sores, wounds, and ulcers square measure helpful predictors, and therefore the absence of skin ulcers and wounds helps to rule out skin infections. A better comprehension of the clinical characteristics that are predictors of infection in this age group is necessary in order to accurately diagnose and treat bacterial skin infections in older adults in the primary care setting **[71]**.

In a study of Michael Reid et al, the literature provides the summary of HCV infection's medicine, explanation, and clinical course yet as however age affects patients' clinical outcomes. HCV infection has additionally been related to associate exaggerated risk of extrahepatic comorbidities common to the ageing patient, like as malignancy, kidney disease, diabetes, cardiovascular disease, and neurocognitive impairment. Older age has been related to associate exaggerated risk of HCV-associated disease, including cirrhosis and hepatocellular carcinoma in those with HCV infection, Most likely due to mechanisms associated with ageing as well as an extended period of HCV infection **[72]**.

In a study of Arnold YL Wong et al, lower back pain (LBP) is that the second commonest disabling health condition in old age 60 and up. Non-specific (e.g., fracture or inflammation)

and self-limiting causes of LBP are the foremost common among older adults. Older adults are additional probably than working-age adults to develop sure LBP pathologies (e.g., osteoporotic os fractures, tumors, spinal infection, and body part spinal stenosis). Multiple risk factors (e.g., genetic, gender, and ethnicity) may additionally have a bearing on the prognosis and management of LBP in older adults. to scale back undertreatment of older adults with LBP and quantify pain medications supported individual desires. Understanding the varied factors that contribute to severe/chronic LBP in older adults permits for the event of timely and applicable treatment methods **[73]**.

In a study of Oryan Henig et al, the prevalence of respiratory disorder rises with age, and it's particularly rife in patients in semipermanent care facilities (LTCFs). Mortality rates vary from 4.9 to 48 %, increasing with age and severity of illness. Age was discovered to be associate freelance predictor of mortality.

Underlying comorbid conditions cardiovascular and lung disease, diabetes mellitus, malignancy, deficiency disease, and treatment failure are all additional common in older age and are risk factors for respiratory disorder in older adults. In older adults, smoking and being a person are found to be freelance risk factors for community-acquired pneumonia (CAP).

Polypharmacy is common in old patients, and several other medication are coupled to associate exaggerated risk of respiratory disorder, together with antianxiety agent and anticholinergic medication, each of that are want to treat symptoms that are additional common within the old. These medications are wont to treat symptoms of insanity, enuresis, depression, pain, and sleep disorder.

According to a semipermanent follow-up study, patients over65 years recent (22.4 percent–33.6%) and people over ninety years recent old high rates of 1-year mortality (67%). Patients over 75 years recent died in hospitals at a rate doubly as high as those between 65 and 74 years recent (10.6 % vs 4.9 percent, respectively). Pneumonia is one in every of the foremost common causes of readmissions, accounting for 17.9 % to 29.4 % of early readmissions, consistent with a scientific review of patients WHO were discharged once CAP. All-cause 30-day admittance rates ranged from 16.8 % to twenty.1 percent. Age, COPD, smoking, associate elevated respiratory disorder Severity Index score, and former ICU admission are all risk factors for admittance **[74]**.

In a study of Katarzyna Mordarska et al, seniors with diabetes are additional probably to expertise chronic microvascular and macrovascular problems, hypoglycaemia, and frailty syndrome.

When assessing a diabetic patient, it is vital to contemplate not solely their age however additionally their biological age, level of physical fitness, mental capacity, presence of different chronic diseases, and level of motivation and support from friends and family.

Hyperglycemia symptoms ought to be reduced step by step whereas avoiding hypoglycaemia. If the life is a minimum of 10 years, the target price of glycated haemoglobin HbA1c is that the same as in younger age teams. within the case of patients with semipermanent polygenic disorder complications, a additional liberal approach is usually recommended, with a HbA1c target price of V-day **[75]**.

In a study of Efraim Jaul et al, traditional ageing changes, diseases and syndromes common in folks over the age of 85, psychological feature and psychological changes, and social and environmental changes.

The article assesses however awareness of age-related physiological changes, like diminished vision and hearing acuity, slow interval, and impaired balance, can prepare patients and caregivers to manage risks, create educated selections, and presumably stop falls and medicine facet effects. Social and mental state problems also can contribute to useful decline within the old **[76]**.

In a study of Patou Masika Musumari et al, this study reports on the correlates of major health behaviours like alcohol use, smoking, and physical activity among Thai OALHIVs.

A significant proportion of OALHIVs were current smokers and reportable alcohol drinking, with a very higher proportion of significant episodic drinking than in similar age teams within the general population. Male gender was a powerful predictor of getting consumed alcohol within the previous twelve months and being a current smoker, whereas low socioeconomic standing (income and education) was a predictor of physical inactivity and alcohol use **[77]**.

In a study of Ann D. Colosia et al, the review analyses historical data on the prevalence and cost of respiratory syncytial virus (RSV) infection in older people who receive medical attention.

With increasing age, medically attended-RSV infection seems to become more prevalent and is linked to significant morbidity and the use of healthcare resources. Even though the mortality rate is low for people who only receive outpatient care (1%), it is significantly higher for older

people who are admitted to the hospital with RSV-related illnesses (on average, between 6 and 8% in the studies included in this review). In these studies, the majority of patients with ARI hospitalised for RSV testing positive had pulmonary, cardiac, and/or immunodeficiency conditions that would raise their risk of complications from any respiratory tract infection.

Protection against RSV in older adults could reduce respiratory-related burden, particularly in the elderly and patients with comorbidities **[78]**.

In a study of Song- Yi Park et al, weight loss in mid to late adulthood appears to increase the risk of mortality in both men and women, as well as across five different racial/ethnic groups. Excessive weight gain was also linked to an increased risk of death **[79]**.

In a study of Dafna Yahav et al, in older patients, bloodstream infections (BSIs) are both common and fatal. The most frequent pathogen in community acquired BSIs is E coli, and UTI is typically the most frequent source of infection.

By removing unnecessary urinary catheters and following infection control procedures, BSIs may be avoided **[80]**.

In a study of Kosuke Kawai et al, this population-based cohort study found that the prevalence of HZ has increased significantly in both sexes and across all age groups over the last six decades. This increase is unlikely to be the result of varicella vaccination, antiviral therapies, or a shift in the prevalence of immunocompromised people. The prevalence of HZ increased significantly across all age groups and both sexes.

The prevalence of HZ has more than quadrupled in the last six decades, owing to the introduction of varicella vaccination and antiviral therapy **[81]**.

In a study of Mercedes Gimeno – Gracia et al, compared to people of a similar age in the general population, older HIV-positive males and females exhibit polypharmacy more frequently. Sulfonamides, macrolides, and quinolones, which are anti-infectives, were more commonly prescribed to HIV-positive patients, but there were no differences in the proportion of patients taking cardiovascular medications.

Males with HIV were more likely to use multiple medications (8.9 percent vs. 4.4 percent, P=0.010) than males in general. Additionally, polypharmacy was more prevalent in females with HIV than in the general female population (11.3 percent vs 3.4 percent, P=0.002) **[82]**.

In a study of Michael W Beckett et al, in adults 65 and older, physical activity is linked to a lower risk of Alzheimer's disease development.

Evidence suggests that older adults who engage in moderate to vigorous physical activity have better quality of life overall and have a more positive impact on their mood and depression. Physical exercise also helps to reverse sarcopenia and lessen the functional impairment brought on by ageing.

Some evidence links physical activity to increased blood flow to the brain, while other evidence links it to increases in molecular growth factors like brain-derived neurotrophic factor (BDNF) and insulin-like growth factor (IGF-1), both of which play important roles in neuroprotection and neurotransmitter function **[83]**.

In study of Theresa Anne Rowe et al, older patients frequently experience urinary tract infections (UTI) and asymptomatic bacteriuria (ASB). Because older adults may not exhibit the typical signs and symptoms suggestive of UTI, it can be difficult to distinguish UTI from

ASB. In both community-dwelling older adults and those who are institutionalised, Escherichia coli (E. coli) is the pathogen that is most frequently isolated from urinary cultures.

Antibiotic overuse for suspected UTI is a major issue in long-term care facilities, and it contributes to the development of multidrug-resistant organisms.

Antibiotic use in older adults will be reduced as UTIs are prevented. Several pharmacologic and nonpharmacologic strategies for UTI prevention in the elderly have been investigated **[84]**.

In a study of Mary C. White et al, cancer does not have to be an unavoidable consequence of growing older, according to current evidence. Interventions that promote healthy behaviours, help people manage chronic conditions, and support healthy environments may help people make a healthier transition from middle age to old age and reduce the likelihood of developing cancer. Because the number of adults reaching retirement age is rapidly increasing, the number of new cancer cases will rise if current incidence rates remain unchanged.

The majority of adults do not necessarily have to develop cancer as they age. On the other hand, delaying the development of cancer can be seen as a useful tactic for living a healthy, long life.

Age is coincidentally linked to the health behaviours, exposures, and chronic conditions that can be prevented and are causally linked to cancer. Multilevel system and environmental interventions that address multiple diseases and risk factors could prevent or delay the occurrence of cancer and other age-related diseases in addition to changing individual behaviours to reduce cancer risk **[85]**.

In a study of Lauren J Gleason et al, the two definitions that area unit most often cited area unit a lot of precise and go as follows: (1) the utilization of six or a lot of medications; or (2) the utilization of a doubtless inappropriate drug wherever the medication doesn't correspond to the identification.

Older HIV-infected patients have multiple comorbidities that necessitate multiple pharmacotherapies, that will increase their risk of polypharmacy and connected adverse events. However, the impact of ageing on medication uses in HIV-infected older individuals, the potential for interactions with drug cocktail and administered medications, and also the impact on medical aid tolerability and medical specialty response with ageing area unit all factors to think about. Reduced pill burden, careful medication volumetric analysis, and augmented awareness of common DDIs will facilitate to avoid doubtless harmful drug combos and scale back spare polypharmacy-related adverse events during this population **[86]**.

In a study of Regina F. Holmes et al, there are two types of skin tears: partial thickness wounds within which the stratum is separated from the stratum because of friction or cutting off force trauma, and full thickness wounds within which each the stratum and also the stratum cut loose the underlying tissue. Corticosteroids inhibit scleroprotein synthesis and scale back the strength and physical property of the skin.

Risk factors for skin tears in older patients residing reception area unit intensive and embody 5 major areas: skin issues, comorbid conditions, practical impairments, psychological feature pathology, and environmental hazards.

Skin tears ought to be treated in a very systematic thanks to embody cleansing with traditional saline, dominant haemorrhage, removing a clot, associated choosing an applicable dressing to deal with the wound characteristics. Hydrogels are often placed over the skin tear and if there's a necessity to manage exudate, absorbent dressings like hydrofibers and alginates are often

used. Nonadherent dressings like soft siloxane merchandise, those with a jelly base, and mesh area unit applicable for minimally exudating skin tears **[87]**.

In study of Am Fam Physician et al, about 90% of deaths from pneumonia and influenza in adults 65 and older occur in the United States, wherever they're the sixth and seventh leading causes of death, severally. Early detection was difficult in older individuals as a result of common signs and symptoms, like fever and a scarcity of leukocytes, were usually absent. associate older patient with associate infection has issues with changes in mental standing.

Because of the high level of antibiotic resistance, it's vital to forestall VRE outbreaks and unfold. Handwashing and correct handling of bodily secretions, like MRSA, area unit the most effective ways that to forestall VRE infection outbreaks. Limiting the utilization of oral and parental Vancomycin can aid in preventing the unfold of resistance **[88]**.

AIMS

AND

OBJECTIVE

AIMS & OBJECTIVE

AIM: – The aim of this study is to review common infections seen in older adults (age ≥ 60 years) and with the emphasis on the integration of the effects of physiological changes in old age.

OBJECTIVE: - The objective of this study is to comprehensively summarize common cause and risk factors of developing severe and chronic common infection in old age.

MATERIALS AND METHODS

MATERIALS AND METHODS

TYPE OF STUDY: - Meta-analysis

DATA TYPE: - Data for this meta-analysis were collected from following sources.

a. Data from various publications in indexed journals.

b. Online data from various literature reviews.

c. Data from websites of CDC, NCDC, WHO.

TIME FRAME: - All the studies in indexed journal from year 2001 to 2022.

SEARCH STRATEGY: - This meta-analysis followed the PRISMA guidelines. Articles were searched on PubMed, Google scholar, Web of Science, Science Direct, and Scopus using terms related common infections in older adult, urinary tract infections, bacterial pneumonia, osteoporosis, dementia, and skin infections in older adults were used. Boolean AND, OR and NOT were used.

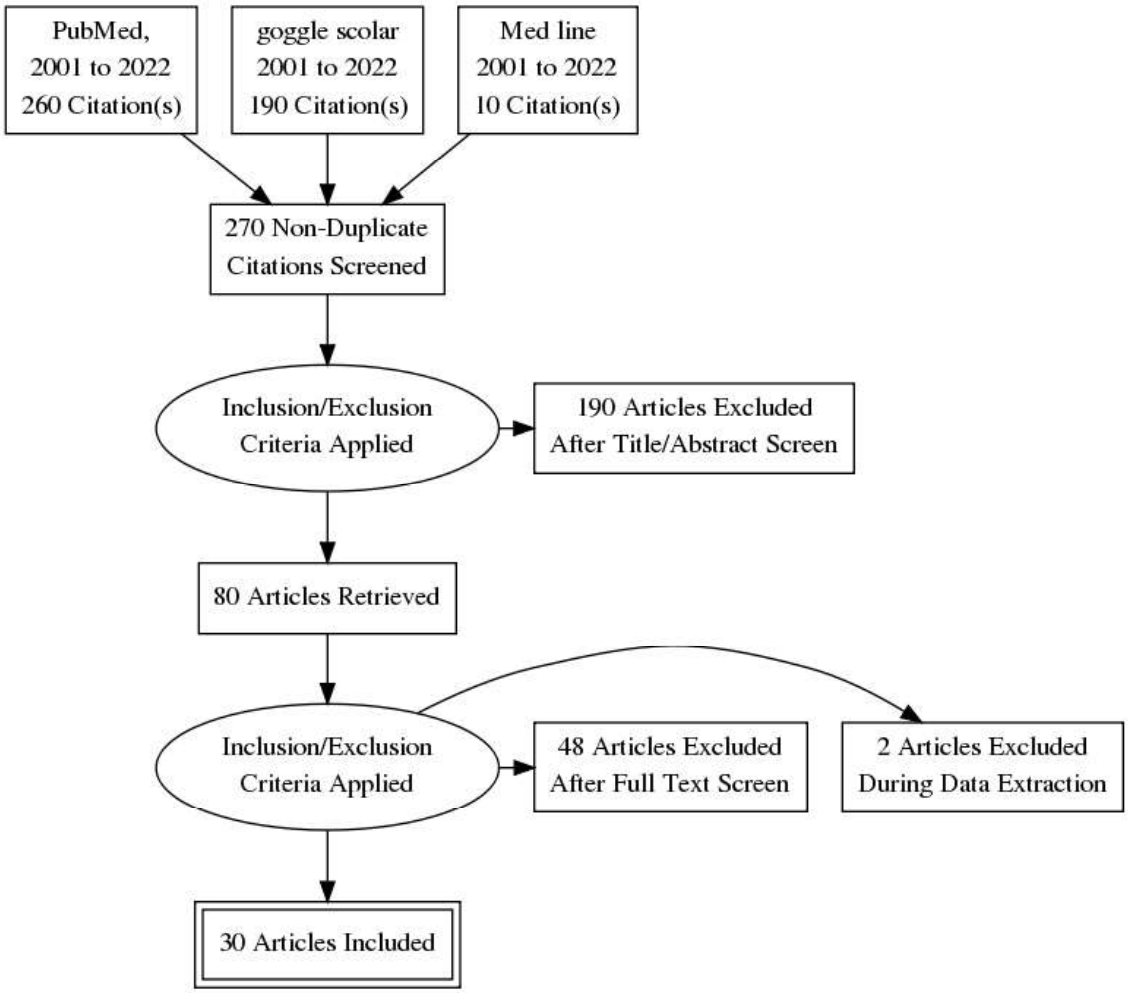
INCLUSION CRITERIA: - Article titles and abstracts were screened to include relevant articles. Common Infections in Old Adults, Bacterial pneumonia in older adults, increasing incidence of Herpes Zoster over a 60 – year, Age-related diseases, the prevention of

Alzheimer's disease in older adult, Immunological implications of physical inactivity among older adults.

EXCLUSION CRITERIA: - Article titles and abstracts were screened by researchers independently to exclude irrelevant articles.

Study Selection Process:

At the first stage of the search, 460 articles were found, and after reviewing the titles of articles, 190 duplicate and overlapping articles were deleted and 270 Non – duplicate articles remained. In total, 190 articles were removed due to noncompliance with the criteria, the extract of 80 potentially related articles were reviewed, and 48 articles were excluded due to lack of access to the full text of the article and 2 articles excluded during Data extraction. Finally, 30 appropriate papers were selected to enter the meta-analysis stage.



OBSERVATION AND RESULTS

OBSERVATION AND RESULTS

S. No.	AUTHOR	YEAR	COUNTRY	POPULATION	PREV %	STUDY FINDING
1	Nohubiko Fukuda et. al.	2021	Japan	Hospitalized older adult ≥60 years	18.4% in vaccinated patients and 34.6% in unvaccinated patients	Anti-pseudomonal antibiotic use, pH and PaCO2 of ABG analysis, and A-DROP scores were asserted in a study as adverse outcomes for CAP death rates **[59]**.
2	Oryan Heing et. al.	2017	USA	CAP in elderly	80% to 95%	Cardiovascular and lung illness, diabetes, cancer, malnutrition, and misdiagnosis are all more prevalent in older adults and are independent predictors for pneumonia **[74]**.
3	Am Fam Physian et.al.	2001	USA	≥65 years and older	90%	Early diagnosis was difficult in the elderly because clinical manifestations, such as fever and a lack of leukocytes, were late or absent **[88]**.
4	Mert Esme et.al.	2019	Turkey	Critically ill patients ≥80 years	48.7% aged 65 and older, ≥80 years of age was at independent risk	Infectious disease threat in older individuals is enhanced by immunosenescence, comorbidity, malnutrition, and social determinants of health **[69].**
5	Ting Shi et.al	2019	America	Older adult ≥65 years	NA	As per the review, RSV, Flu, PIV, HMPV, AdV, RV, and CoV all seem to be significant cause of ARI in older individuals **[66]**.
6	Bradley Ackerson et.al	2019	America	1878 influenza-infecte	NA	In elderly hospitalised adults, RSV infection can lead more illness and death than influenza **[67]**.

				d Hospitalized older adult ≥65 years		
7	Ann D. Colosia et.al	2017	United States	Medically attended older adult ≥50 years	12%	ARI who confirmed for RSV had pulmonary, cardiac, and/or immune compromised conditions that increased their complication rate regarding any respiratory tract infection **[78]**.
8	Theresa Anne Rowe	2014	USA	65 to 74 years older adult	30% 0f women infected with UTI Bacteriuria 25% to 50% for women and 15% to 35% in male	Overuse of antibiotics for suspected UTI is a significant problem in long-term care facilities, contributing to the emergence of multidrug-resistant organisms **[84]**.
9	Anthony Damiot	2020	Brazil	Older adult during COVID-19 pandemic	NA	Managing physical activity levels has become critical for improving immune function in the overall population **[64]**.
10	Sunny Singhal	2021	India	13,624 Older adult ≥60	11% patients died	A high majority of participants suffering from severe disease, acute illness, and a high mortality rate **[61]**.

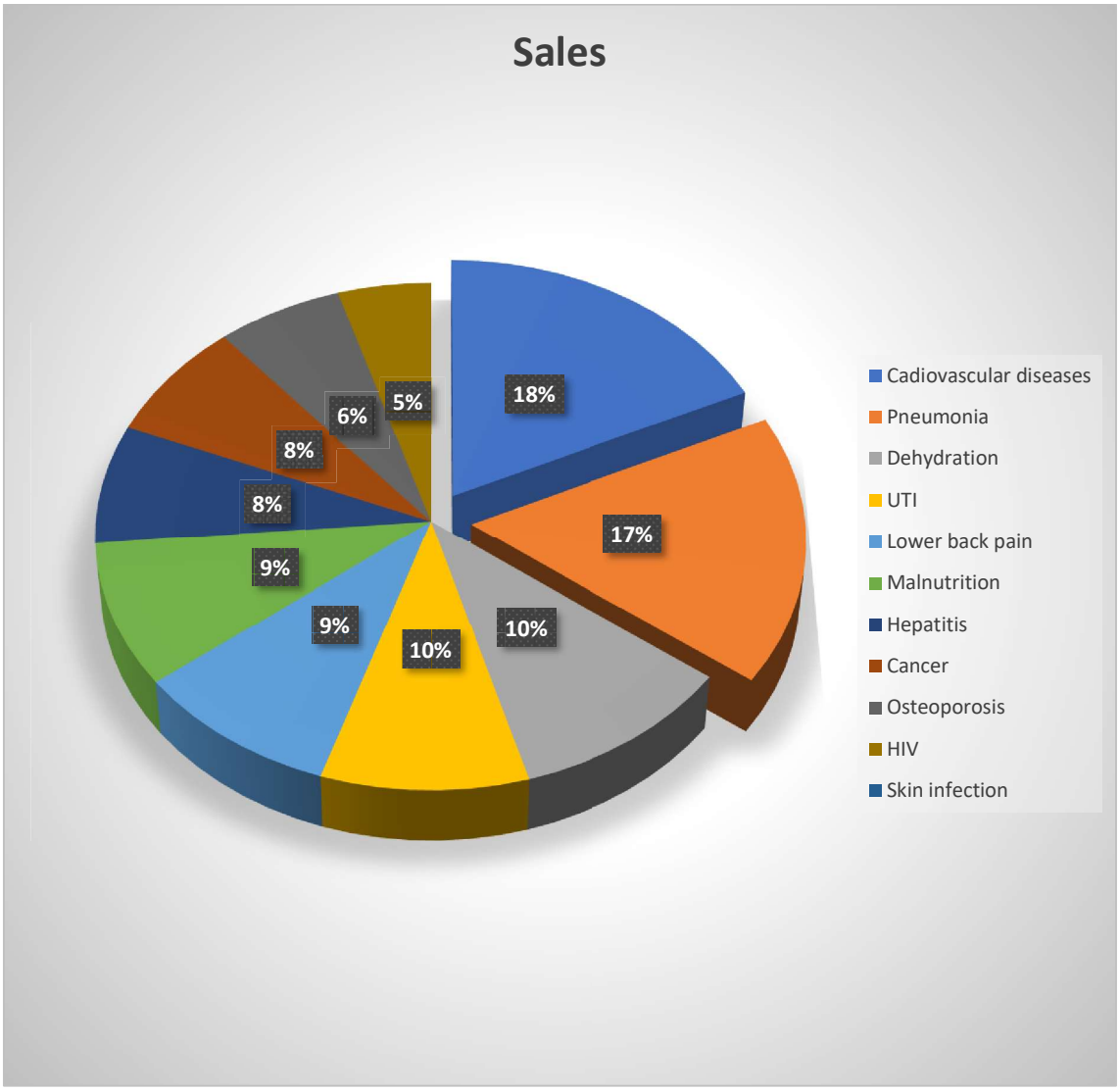
				years were included		
11	Song-Yi Park	2017	USA	Multiethinic population	22 to 39% mortality	Weight loss in mid to late adulthood enhances the risk of mortality among both men and women **[79]**.
12	Isaac M. Danat	2018	Australia	NA	NA	Obesity and overweight in elderly adults do not reduce the risk of dementia **[70].**
13	Efraim Jaul	2017	Israel	≥80 years and over population	NA	The study assesses necessary modifications associated with normal ageing, diseases, and social and environmental changes **[76].**
14	Patou Masika Musumari	2017	Thailand	Older adult ≥50 years living with HIV	NA	Male gender was found to be a major predictor of consuming alcohol in the preceding 12 months and being a current smoker, whereas poverty (income and education) was found to be a leading indicator of lack of physical activity and liquor use **[77]**.
15	Lauren J Gleason	2013	USA	≥50 years	53% in the older group versus 19% in the younger group	The possibility of HAART and administered medication interactions, as well as the impact on therapy tolerability and virological response with old age, are all aspects to consider **[86]**.
16	Hassan Nnourm	20022	Iran	60 years and older	osteoporosis in people over 60 years 34% and of low bone	Men are more prone to osteoporosis than women. The hip had the overall prevalence of osteoporosis, and the lumbar had the highest prevalence of osteopenia **[58]**.

					density was 47%	
17	Kosuke Kawai	2016	Georgia	Over 60 year	58.7% were females and 6.6% were immunocompromised	The rise in HZ is improbable to be the result of an increase patient healthcare-seeking due to the accessibility of antiviral therapies **[81]**.
18	Kristina Norman	2021	Germany	individuals aged 65 or over	adults over the age of 65 are at high risk of malnutrition	Adequate protein intake combined with adequate energy intake is critical for preventing malnutrition and sarcopenia **[62]**.
19	Michael W Beckett	2015	Canada	older adults over the age of 65 years	0.61 (95% CI 0.52-0.73)	Moderate to vigorous physical activity is accompanied with enhanced quality of care and a positive effect on mood and anxiety in elderly persons **[83]**.
20	Petra Maresova	2019	Malaysia	older adults over the age of 65 years	NA	Disability,Psychological disorders, mobility problems, poor cognitive functioning, falling and incidents, wounds and injuries, malnutrition, and communication problems are the most common causes of ADL malfunction in the elderly **[68]**.
21	Dafna Yahav	2016	Israel	65 years and older	12-20 %	The most frequent pathogen in community acquired BSIs is E coli. By removing unnecessary

						urinary catheters and following infection control procedures, BSIs may be avoided **[80]**.
22	Katarzyna Mordarska	2017	Poland	older than 65 years	NA	In addition to their chronological age, it is important to take into account their biological age, level of physical fitness, cognitive ability, and the presence of other chronic diseases **[75]**.
23	Himani nanda	2020	India	CVDs in the geriatric population	elderly males was 38.0% elderly females was 40.9%	The presence of CVDs was noticeably higher in the female geriatric population than the male geriatric population **[65]**.
24	Mary C. White	2014	Georgia	aged ≥65 years	40% among adults aged ≥65 years	Age is causally linked to cancer through modifiable health behaviours, avoidable exposures, and chronic conditions that can be prevented **[85]**.
25	Michael Reid	2018	USA	aged ≥65 years	NA	A higher risk of extrahepatic comorbidities, such as cancer, kidney disease, diabetes, cardiovascular disease, and neurocognitive impairment, which are typical of older patients, has also been linked to HCV infection **[72]**.
26	Arnold YL Wong et.al.	2017	China	aged ≥65 years and older	13-50%	To reduce undertreatment of older adults with LBP and titrate pain medications based on individual needs **[73]**.
27	Chevonne Bruno et al	2021		≥65 years	55%	A fluid intake boost of at least 1.7 litres every 24 hours, as well as empowering people to consume huge amounts of fluids all at once

						instead of small portions over the day **[60]**.
28	Marguerite M Conley	2021	Australia		NA	Obesity is a predictor of incident CKD and progression to kidney failure **[63]**.
29	Oghenekome A. Gbinigie	2019	UK	≥65 years	NA	The diagnosis of bacterial skin infections in older adults with unusual symptoms can be difficult; ulcers, wounds, and pressure sores are helpful indicators **[71]**.
30	Regina F. Holmes	2013	Chicago	≥65 years at high risk and those ≥80 at greatest risk	14% and 24% of older adults	Diagnosis for skin tears should be methodical and consist of normal saline cleaning, bleeding control, clot removal, and dressing selection based on the wound's characteristics. Over the skin tear, hydrogels can be applied, and absorbent dressings like hydrofibers and alginates can be used if exudate needs to be managed.

Causes of death for people who were 60 year and old



DISCUSSION

DISCUSSION

Infectious diseases account for third of all deaths among elder aged 65 and up. As a result of typical signs and symptoms are absent within the old, early detection is harder. communicable disease hindrance, diagnosis, and management in old patients (>65) gift vital and evolving challenges.

Our study conducted chiefly to see the common infections in older adult throughout 2001 to 2022.

This meta-analysis wanted to look at the clinical characteristics of pneumonia in hospitalised older adults and describe the affiliation between the ill health and diplococcus vaccination. The rate was higher within the immunized cluster than within the susceptible cluster while not applied math distinction. within the previous study, low performance standing, hypoalbuminemia, acidosis, tachypnea, and high organic compound atomic number 7 were known as risk factors for respiratory disorder mortality. Low performance standing (p = zero.08) and hypoalbuminemia (p = zero.15) were joined to death. As a result, it's important to manage and maintain health in lifestyle before the onset of respiratory disorder. it's been incontestable that correct nutrition reduces the prevalence of respiratory disorder.

RSV could be a serious ill health that causes serious ill health in hospitalised older adults, with morbidity and mortality that will be even larger than that caused by respiratory disorder, and will have a larger impact on long survival. Medically attended–RSV infection was detected in up to twelve-tone music of older adults with Associate in Nursing ARI. Medically attended-

RSV infection seems to be changing into additional common with age, and it's related to vital morbidity and health-care resource use. though mortality is low among those receiving solely patient care (1%), it's considerably higher among older adults hospitalised with RSV-related illnesses: 6 June 1944 to eight. Protection against RSV in older adults might scale back respiratory-related burden, notably within the old and patients with comorbidities.

Review summarized knowledge from 5560 cases of ARI in older adults according across sixteen studies RSV, Flu, PIV, hMPV, AdV, RV, and CoV area unit vital causes of ARI in older adults, once a scourge is known in older adults presenting with ARI or respiratory disorder, When a virus is identified in older adults presenting with ARI or pneumonia, the odds ratio (OR) for RSV (8.5 [95 percent CI, 3.9-18.5]; AFE, 88 percent), Flu (OR, 8.3 [95 percent CI, 4.4-15.9]; AFE, 88 percent), PIV (OR, not available [NA]; AFE, approximately 100 percent), hMPV (OR, 9.8 [95 percent CI, 2.3-41.0]; A This suggests that RSV, Flu, PIV, hMPV, AdV, RV, and CoV play an etiological role in ARI and pneumonia in older adults.

Social isolation is likely to result in a decrease in physical activity, which could lead to immune dysregulation as well as impairments in glucose and lipid metabolism, physical dysfunction, and mental distress. In this scenario, maintaining physical activity levels becomes critical for improving immune function in the general population. Physical activity is especially important for older adults and those with chronic diseases, not only because their immune systems may be compromised. According to some studies, stress, depression symptoms, and social isolation can impair immune defences, making an individual more susceptible to a potential viral infection.

The clinical characteristics and outcomes of COVID-19 in older adults were assessed in this meta-analysis, which included 46 studies with 13,624 patients. Overall, half of the patients developed severe illness, and 23% developed critical illness or were admitted to the intensive care unit. At the time of the studies' publication, one out of every ten patients died, and less than half were discharged from the hospital, comorbidities were quite common in older adults. In older patients, the most common symptoms were fever (83%), cough (60%), and dyspnea (42 %). Dry cough was more common (56%) than productive cough (28 %). Lymphopenia (52%) and leukopenia (20%) were discovered to be quite common among the patients. The most common radiological finding in older patients was bilateral lung infiltrates (76 %). The majority of patients (84%) required oxygen support, and a significant number of patients (21%) required invasive mechanical ventilation. A few of them (4%) were also receiving non-invasive ventilation.

Polypharmacy is more common in HIV-positive older males and females than in the general population at the same age. HIV-positive patients received a higher proportion of CNS and anti-infective drugs, specifically sulfonamides, macrolides, and quinolones, but there were no differences in the proportion of patients receiving cardiovascular drugs. To ensure that HIV-positive patients receive appropriate care, it is critical to investigate the use of nonantiretroviral therapy medications.

Reduced pill burden, careful medication titration, and increased awareness of common DDIs can help to avoid potentially harmful drug combinations and reduce unnecessary polypharmacy-related adverse events in this population.

Malnutrition in older adults has been identified as a difficult health concern associated not only with increased mortality and morbidity, but also with physical decline, which has wide-ranging acute implications for daily activities and overall quality of life. Adequate protein intake combined with adequate energy intake is critical for preventing malnutrition and sarcopenia. Furthermore, because micronutrient deficiencies are common in older people, targeted micronutrient supplementation may be beneficial when diet alone is insufficient to meet the age-specific requirements.

To evaluate a diabetic patient, consider not only their chronological age, but also their biological age, physical fitness, intellectual capacity, and the presence of other chronic diseases. The goal of treating an elderly person is to improve or at the very least maintain their current quality of life. Hyperglycemia symptoms should be reduced gradually while avoiding hypoglycemia. If the life expectancy is at least ten years, the target value of glycated haemoglobin HbA1c is the same as in younger age groups. In the case of patients with long-term diabetes complications, a more liberal approach is recommended, with a HbA1c target value of 8%.

Chronic diseases can lead to ADL reliance in old age. Disability, psychological disorders, mobility problems, poor cognitive functioning, falling and incidents, wounds and injuries, malnutrition, and communication problems are the most common causes of ADL malfunction in the elderly. This meta-analysis supports the view that chronic diseases in old age are a complex issue that requires multicomponent interventions, including early detection of problems that lead to disability and ADL dependence.

According to the findings of the meta-analysis, physical activity may be an important protective factor against Alzheimer's disease in adults 65 and older. Evidence suggests that moderate to vigorous physical activity is associated with improved quality of life and a positive impact on mood and depression in older adults. Furthermore, physical activity has been shown to improve sarcopenia and reduce functional impairment associated with ageing. Some evidence links physical activity to increased blood flow to the brain, while other evidence links it to increases in molecular growth factors such as brain derived neurotrophic factor (BDNF) and insulin-like growth factor (IGF-1), both of which play important roles in neuroprotection and neurotransmitter function.

The study was carried out to look into the prevalence of osteoporosis and low bone density in Iranians over the age of 60. Because the elderly are one of the disease's most vulnerable populations, In people over 60, the prevalence of osteoporosis was 34% (95 percent CI: 27, 42%), and the prevalence of low bone density was 47%. (95 percent CI: 41, 53 %). Men are more likely than women to have osteoporosis. The hip had the highest prevalence of osteoporosis, while the lumbar had the highest prevalence of osteopenia.

CONCLUSION

CONCLUSION

Aging could be a universal however not uniform method. Patients and caregivers are going to be higher ready to manage risks, build knowledgeable selections, and probably forestall falls and drugs aspect effects if they're responsive to age-related physiological changes like reduced vision and hearing acuity, slow interval, and impaired balance.

Social and psychological state problems can even contribute to practical decline within the aged. Attention to depression and suicide risk in men throughout the primary year when the death of a spousal equivalent, or depression when a hip fracture or stroke, might facilitate forestall age-related deterioration. Aging could be a universal however not uniform method. Patients and caregivers are going to be higher ready to manage risks, build knowledgeable selections, and probably forestall falls and drugs aspect effects if they're responsive to age-related physiological changes like reduced vision and hearing acuity, slow interval, and impaired balance.

Improving vision and hearing will facilitate forestall isolation, depression, and psychological feature decline. Lower extremity strength, notably extensor muscle muscle strength, is important for playacting basic daily activities like bathing, walking, and playacting transfers. individuals over the age of 85 need these muscles for stability and to avoid falling. Walking speed could be a helpful metric. Regular walking is suggested as a sort of resistance exercise to assist maintain strength and forestall upset. Maintaining a healthy weight over time can even facilitate to forestall polygenic disease, degenerative arthritis, and different chronic diseases.

Social and psychological state problems can even contribute to practical decline within the aged. Awareness of those problems might facilitate to forestall age-related deterioration, like exaggerated attention to depression and suicide risk in men throughout the primary year when a death.

Organizational changes within the health care trade have the next likelihood of success once health care professionals have the prospect to influence them, feel ready for them, and see their price, together with the advantages to patients. though changes should be created in health care organisations, there area unit varied approaches that area unit a lot of or less made.

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