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Effective Nursing Care for Older Patients Experiencing Delirium

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ABSTRACT

Delirium is a common and serious health challenge for hospitalized older adults and is associated with increased morbidity and mortality rates. Nurses have a key role in identifying older patients with delirium. Because they provide a round-the-clock bedside care, they may be the first to notice changes in a patient's baseline cognition. However, despite its significance, delirium is often under-recognized by nursing staff. To recognize the emergency of delirium and to intervene appropriately, nurses must know delirium risk factors, frequently assess older patients for signs and symptoms of delirium, and initiate nursing actions to improve patient-care outcomes.

Keywords: Nursing care, Older adults, Delirium

Sita

Sita has lived on her small family farm for more than 50 years. She has been a widow for over ten years; her two sons, their wives, and most of her seven grandchildren lived within

walking distance of the farm. A third son and his wife live with her. In her early 80s,Sita became more forgetful and sometimes confused by her surroundings; however, she was able to help with meal preparation and perform light farm chores. She wears her glasses to do her chores. She spent part of her morning, after her breakfast, walking to the chicken's pen to feed them. One evening,Sita complained of severe abdominal pain. She was taken to the hospital, where a ruptured ovarian cyst and urinary tract infection were discovered. She had surgery that evening. After her surgery and as she recovered from it while still in the hospital, Sita became agitated, consistently trying to get out of bed, and was unable to answer questions clearly. She had developed delirium.

Background

The researchers started with a question, as Gillespie and Gillespie (2003), wrote, "Start by framing a simple question...this can be refined to specify all the concepts of interest to the …condition" (p. 139). For us, it was *How do we, as registered nurses, recognize delirium and intervene?*We sought an answer in the literature.Asearch was conducted in several databases, including Cumulative Index to Nursing and Allied Health (CINAHL), and MEDLINE. Search terms included *older adult, delirium, nursing,* and *best practices*. We recognized that we could only search in English.

Delirium: AChallenge for Nursing Staff

What did the researchers find ? There is a growing body of nursing literature on identifying, preventing, and managing delirium. Although most of this research originates from North American researchers, there is a substantial contribution from Scandinavian researchers, especially from Sweden. Delirium is a patient experience that is often not recognized by nursing staff (Blevins & DeGennaro, 2018; El Hussein, Hirst, & Salyers, 2015; El Hussein, Hirst, & Stares, 2021). It is a common neuropsychiatric disorder, particularly among hospitalized older patients, and is a frequent complication after surgery (Balková &

Tomagová, 2018). Delirium is characterized by disorganized thinking, a decreased attention span, a lowered or fluctuating level of consciousness over the day, disturbances in the sleep–wake cycle, disorientation, and changes in psychomotor activity. It is associated with increased morbidity, mortality, and interference with pain and other presenting symptoms. It may develop over hours or days and can persist for months (Anand & MacLullich, 2021).

Delirium may develop secondary to multiple predisposing factors, which increase the older adult's vulnerability to it, and precipitating factors which initiate the immediate threat. Numerous factors can lead to delirium, but attention should be paid to medications, infections, sensory impairment, dehydration, hypoxia, and metabolic disturbances. Often, more than one responsible factor is present in older patients. Benzodiazepines, antihistamines, and opioids may contribute to the risk of delirium. In addition, poorly managed pain may be a risk factor although as Sampson, West, and Fischer (2020) reported the exact relationship between pain medication, pain management, and delirium risk is unclear. They commented that this is a complex relationship, particularly where analgesics which may themselves cause delirium are prescribed. The stress of hospitalization may also contribute to delirium. This was true for Sita, who was made vulnerable to delirium by her dementia, advanced age, and vision impairment. She then experienced an infection and was prescribed new medications while in the hospital. These factors contributed to her delirium.

Although delirium is commonly thought to involve agitation and hyperactivity, as was the case with Sita, Hayhurst and colleagues (2020) reported that hypoactive symptoms such as lethargy and reduced psychomotor activity are more common but less frequently identified. Delirium can be classified into three psychomotor subtypes: hypoactive, hyperactive, and mixed. Hypoactive delirium is also known as "quiet" delirium and delirious patients with this subtype can appear drowsy, somnolent, or lethargic (Mulkey, *et al.*, 2019). This delirium subtype is often missed by nurses and its symptoms are

ascribed to depression or fatigue. Patients with hyperactive delirium may appear restless, anxious, agitated, or combative. Hyperactive delirium is more easily recognized by nurses. Mixed-type delirium has characteristics of both hypoactive and hyperactive delirium. A patient with mixed-type delirium can exhibit hypoactive symptomatology at one moment and hyperactive symptomatology several hours or even seconds later. Hypoactive delirium and mixed-type delirium appear to be the predominant subtypes in older patients regardless of the clinical setting.

Delirium is often incorrectly used interchangeably with dementia. It is important to understand that delirium and dementia are distinct entities with different prognoses and management. Patients with dementia are highly susceptible to developing delirium (Morandi, *et al.*, 2015). As a result, delirium and dementia may often exist together in the same patient.Unlike dementia, delirium has an acute onset and is reversible if treated appropriately.

Table 1

Differentiating between Delirium and Dementia

Characteristic	***Delirium***	***Dementia***
Onset	Acute (hours to days)	Progressive (months to years)
Course	Usually fluctuates	Stable
Inattention	Present	Usually absent
Altered level of consciousness	May be present	Usually absent
Disorganized thinking	May be present	Usually absent
Sleep-wake cycle	May be present	Usually absent
Perceptual disturbances	May be present	Usually absent
Recovery	Usually	Rarely

Nurses Assessing Delirium in Sita and Other Older Adults

The assessment of delirium can help prevent serious complications from developing. Rizk and colleagues (2016) reported

that early recognition and treatment in older patients with hip fractures effectively decreased the severity and duration of delirium. To identify delirium, nurses need to be aware of the older patient's baseline mental status and the characteristics of any observed changes. The nurse's initial assessment should answer the following questions specific to Sita and other older patients:

- Is there a reduced level of consciousness present?
- Is there disorientation to time, place, person?
- Is there short-term memory impairment?
- Is there agitation?
- Is there attention impairment?
- Are perceptual or delusions present?
- Are there disturbances in the sleep-wake cycle?

While not all these signs and symptoms may be observed in an older patient, they may indicate the presence of delirium. Asking family members about Sita's cognitive abilities may provide additional assessment data for the nurse.

In recent decades, valid and reliable screening tools have been developed to detect delirium (Balková & Tomagová, 2018). Using a formalized process tool for the screening of delirium may improve detection rates. One tool example is *The Confusion Assessment Method* (CAM), a reliable tool for detecting delirium quickly (Fong, *et al.*, 2022). The CAM tool assesses 4 features found to have the greatest ability to distinguish delirium from other types of cognitive impairment. In scoring the CAM, the nurse rates each symptom of delirium listed in the CAM as absent (0), mild (1), marked (2).

*Screening for Delirium: The Confusion Assessment Method**

Feature 1 : Acute onset and fluctuating course. This feature is usually obtained from a family member or nurse and is shown by positive responses to the following questions:

- Is there evidence of an acute change in mental status from the patient's baseline?
- Did the (abnormal) behaviour fluctuate during the day, that is, tend to come and go, or increase and decrease in severity?

Feature 2 : Inattention. This feature is indicated by a positive response to the following question:

- Did the patient have difficulty focusing attention, for example, being easily distracted, or having difficulty keeping track of what was being said?

Feature 3 : Disorganized thinking.This feature is shown by a positive response to the following question:

- Was the patient's thinking disorganized or incoherent, such as rambling or irrelevant conversation, unclear or illogical flow of ideas, or unpredictable switching from subject to subject?

Feature 4 : Altered level of consciousness. This feature is demonstrated by any answer other than "alert" to the following question:

- Overall, how would you rate this patient's level of consciousness? Alert (normal), vigilant (hyper-alert), lethargic (drowsy, easily aroused), stupor (difficult to arouse), or coma (unarousable)?

The individual scores are added into a composite. Higher scores indicate more severe delirium. If features 1 and 2 and either 3 or 4 are present (CAM +/positive), a diagnosis of delirium is suggested.

Other validated screening tools for delirium in older patients include the *Intensive Care Delirium Screening Checklist*, the *Delirium Detection Score*, and the *Nursing Delirium Screening*

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* Adapted from Inouye, S., van Dyck, C., Alessi, C., *et al.* (1999). Clarifying confusion: The confusion assessment method. Annals of Internal Medicine. 113(12), 941-948.

Scale. In a prospective cohort study of 65 years+ in-patients, Fuchs and colleagues (2020) used the *Delirium Observation Screening Scale* and the *Intensive Care Delirium Screening Checklist* to collect data over one year. In their findings, they report the prevalence of delirium across all included acute care services was 32 per cent. The chance of developing delirium was highest in intensive care units, high for both intermediate care units and medical services, and lower for surgical services. Compared with patients without delirium, patients with delirium were older, hospitalized twice as long, had more pre-existent dementia, and were more likely to die in-hospital.

How Nurses can Intervene

Management of delirium symptoms is primarily nursing care based. Because delirium is frequently an indicator of acute illness, the priority for nursing staff is to identify its cause if possible, and within their scope of practice, initiate independent nursing interventions, which are those tasks that a nurse can perform without input from another discipline, particularly without a physician's order. These interventions include basic comfort care actions such as providing water, repositioning a patient, providing toileting assistance, and bathing.

Delirium in older patients, such as Sita, is a medical emergency, and nursing interventions to prevent it must be initiated for those at risk. Once high-risk older patients are identified, prevention strategies may be used to reduce delirium.From the literature reviewed, preventative measures that have proven successful in decreasing the risk of delirium in hospitalized older patients include:

- Compensating for sensory deficits by providing the patient with glasses and hearing aids
- Initiating walking three times a day
- Monitoring vital signs for indications of infection
- Monitoring lab results for indications of infection
- Avoiding multiple new medications

- Minimizing the use of immobilizing devices such as indwelling catheters
- Encouraging fluid intake to maintain hydration
- Reducing exposure to environmental elements that might be misperceived by the older patient, such as noise
- Using simple orienting statements in conversations with the older patient
- Encouraging the patient to participate in personal care
- Using a low, clear, calming voice and maintaining eye contact
- Ensuring that families understand delirium
- Trying to ensure the patient consistently has the same caregivers
- Providing analgesia as necessary to manage pain
- Balancing activities to prevent fatigue
- Creating a familiar environment by having objects brought from home
- Providing clocks to help maintain orientation
- Using natural or artificial light to differentiate between night and day
- Providing uninterrupted periods of sleep during the night

Because some complementary therapies have been found helpful in providing effective nursing care, they may be useful in treating delirium. Music therapy, specifically tailored to the older patient's preferences, has effectively decreased general agitation and aggression (Pedersen and colleagues, 2017). Sheikh, *et al.* (2021) conducted a scoping review using PubMed, Google Scholar, and Clinical Trials. They reviewed literature from 1980 to 2021. Out of the 31 studies reviewed, 14 commented on agitation with respect to pet-assisted interventions. Of these, eight studies (57%) reported a statistically significant reduction in agitation and/or delirium in patients who were exposed to pet therapy. However, until more controlled studies are conducted and published, nurses who wish to implement

complementary therapies should carefully consider the older patient's history, behaviours, and possible response(s) to the intervention.

Nurses are members of the interdisciplinary healthcare team. Interdisciplinary approaches to delirium management need to consider several factors, for example, medical problems experienced by an older patient, current medications, and presenting signs and symptoms. Administering medication is a dependent nursing intervention, and as such require a prescription before it can be performed. While antipsychotics and benzodiazepines are often used to control agitation, they should be used at the lowest possible therapeutic dosages, in older patients, especially those with dementia (Carrarini, *et al.*, 2021). Khan and colleagues (2019) in a systematic review and meta-analysis of delirium prevention models of care spoke of the importance of the team. As such the nurse may initiate collaborative nursing interventions with other health teams members, such as physicians, pharmacists, social workers, or physical therapists. These actions are developed in consultation with others to incorporate their professional viewpoint into the older patient's plan of care.

There is also a role for nursing leaders, including educators and managers, to initiate best practices for delirium management. Assessment for delirium appears to be most effective if nurses are trained in the use of standardized tools, because the ability to identify delirium improves when a validated delirium assessment scale is used. To illustrate this point, Lieow, and colleagues (2019) reported that despite nurses' improved knowledge and competency obtained through an educational program, delirium screening documentation after 3 months was poor. However, screening documentation improved when measured at ten months, following additional emphasis by senior nursing staff.From an educators perspective, similar benefits were described by Solberg and associates (2012). They reported statistically significant differences in pre and post-testing suggesting an increased understanding of the experience and abilities of people experiencing cognitive impairment. The four-month follow-up survey showed a

continued understanding of the importance of recognizing, documenting, and treating delirium.

There is little doubt that delirium presents challenges for older patients and the nurses responsible for their care. To achieve best practices in assessing and managing delirium, it is necessary to understand why many nurses do not formally assess patients for delirium. This suggests the need for continuing research and education.

Conclusion

Improving the recognition of delirium in older adults is a complex problem requiring quality nursing screening. Recognition of delirium is the primary obstacle to the quality care of individuals with delirium. One strategy to assess and intervene to assess and prevent delirium will not fit all older patients. Nurses play a primary role in identifying and intervening to provide quality nursing care to patients with delirium.

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Obesity-mediated Perturbations in Haematologic Values of HDLC in Randomised Middle-Aged and Geriatric Population of Darbhanga, Bihar

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ABSTRACT

In the given backdrop of the increasing vulnerability of urbanite middle-aged and older subjects to ageing-related disabilities including cardiovascular complications, haematologic values of HDLC were determined in both the genders of randomized middle-aged and geriatric population (n=460) residing in Darbhanga, Bihar using standardized laboratory technique to assess the interventional impact of increasing age and obesity on cardioprotective properties of HDLC. Two age brackets (45-59 and 60-75 years) and two BMI-linked obesity groups viz., normal weight and overweight/obese were considered in the present investigation. The marked decline recorded in the Mean HDLCvalues of the overweight/obese group in contrast to the normal weight group in both genders could be though responsible for aggravating dyslipidemic trends

posing a serious threat to cardiovascular wellness. Because of notable findings and reported high cardiac death risks in modern times, a protein-rich high fibre vegan diet and moderate-to-high physical activity are recommended to curb the devastating trend of weight gain considering the little scope of reversal of age-induced pathophysiologic perturbations.

Key Words : Age, Ageing, Geriatric, Obesity, Dyslipidemic, Cardiac, Cardiovascular

Gerontologists have prioritised human life extension with minimal disease burden. The task is even more challenging as the aged lot face myriads of health issues of chronic nature. Some of the reasons behind deplorable late life could be poordiet, low physical activity, and a multiplicity of diseases. Besides, the recent trend of high preference for fast food and erratic food behavior could also be liable for disproportionate weight gain. The growing incidence of variable metabolic disturbances in middle-aged subjects as frequently noticed in older adults is indeed alarming. Geriatricians view premature deaths due to systemic lapses as a serious concern.

Ageing is believed to bring changes in the regulatory patterns of cells, organs, and systems, decline the efficiency of homeostatic regulations and increase the rate of tissue damage, morbidity, and mortality (DiLcreto *et. al.*,2015; Hill *et al.*, 2013 and Cochanek *et. al.* 2016). At the same time, obesity is regarded to be a global epidemic with serious consequences like increased risk of morbidity and reduced life expectancy (Gomes *et al.*, 2009). It is admittedly a very important and independent risk factor for cardiovascular diseases including hypertension and aptly indicated by Body Mass Index (Dilman,1989, Cercato and Fonseca, 2019).

It is in the given perspective that the present piece of work was contemplated to study the trend of alterations in so-called good cholesterol, HDLC as a function of increasing age and obesity.

Materials and Method

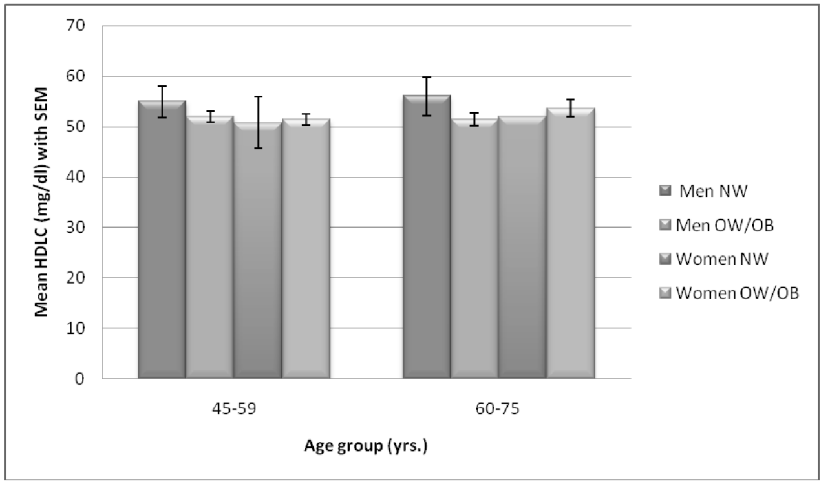
Randomly sampled middle-aged and geriatric population residing in Darbhanga, a commissionary town of Bihar comprised the study group(n=460). Two age brackets viz.45-59years and 60-75 years were chosen. Haematologic values of HDLC (mg/dl) were estimated with the help of a semi-automated analyzer using standardised laboratory technique as described by Burtis *et al.*, 1994. Weight (Kg) and height (m) of subjects who consented to assistance in this study were measured and BMI was computed with the application of the mathematical formula, BMI = Body Weight (Kg)/Height(m^2) as described *by* Romercoccoral *et al.* (2008). BMI ranges as recommended for the Indian population (Patil *et al.*, 2012.) were followed for establishing desired obesity groups.

Table 1

Mean HDLC (mg/dl) of Urbanite Study Population (n=460) in respective Age, Gender and Obesity Groups

Age (yrs.)	Gender	Obesity Group	HDLC ± SEM (mg/dl)	%CV
45-59	**M**	**NW**	55 ± 3.13	17.075
		OW/OB	51.97 ± 1.07	26.759
	W	**NW**	50.8 ± 5.161	20.32
		OW/OB	51.44 ± 1.08	23.108
60-75	**M**	**NW**	56 ± 3.765	17.79
		OW/OB	51.40 ± 1.279	21.838
	W	**NW**	52	-
		OW/OB	53.636 ± 1.66	24.967

Fig. 1 Mean HDLC (mg/dl) with SEM of Urbanite Study Population (n=460) in respective Age, Gender and Obesity Groups



Taking into consideration the aforesaid interpretation, it may be time-driven to recommend a lifestyle with a protein-rich high fibrevegan diet should along with compulsive moderate-to-high physical activity for the sake of maintaining optimized HDLCconcentration and alsoretaining other blood parameters of lipid panel well within 'Normal Range' to restrict atherosclerotic changes with disastrouscardiovascular implications.

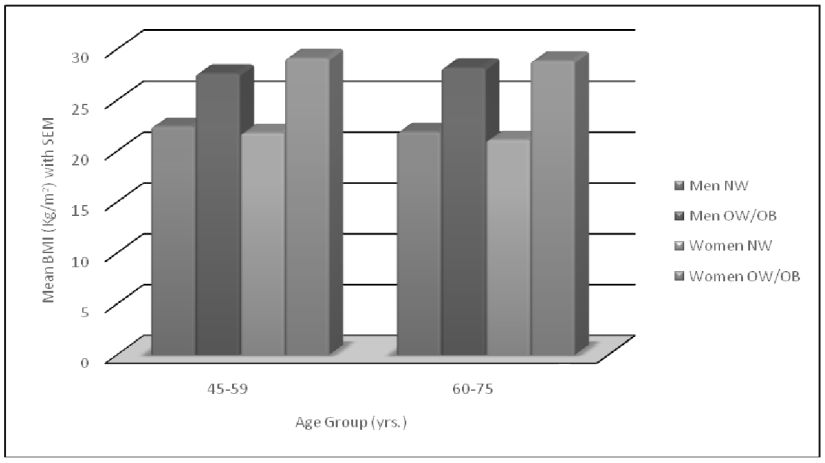
Table 2

Mean BMI (Kg/m²) of Urbanite Study Population (n=460) in respective Age, Gender and Obesity Groups

Age (yrs.)	Gender	Obesity Group	Mean BMI ± SEM (Kg/m²)	%CV
45-59	**M**	**NW**	22.41 ± 0.184	2.472
		OW/OB	27.624 ± 0.186	8.730
	W	**NW**	21.78 ± 0.413	3.791
		OW/OB	29.126 ± 0.292	11.03

60-75	**M**	**NW**	21.9 ± 0.219	2.643
		OW/OB	28.185 ± 0.297	9.251
	W	**NW**	21.1	-
		OW/OB	28.868 ± 3.026	9.737

Fig. 2 Mean BMI (Kg/m²) with SEM of Urbanite Study Population (n=460) in respective Age, Gender and Obesity Groups



Results and Discussion

Marked declines in the Mean HDLC values of overweight/ obese groups in contrast to normal weight groups were recorded in both genders (Table 1 and Fig. 1). Decrements in overweight/ obese men than women in both the age brackets in contrast to normal weight category was observed to be more pronounced. present Mean BMI of the urbanite study population in respective age, gender, and obesity groups were also calculated (Table 2 and Fig. 2). ANOVA indicated highly significant variability for BMI in respect of chosen obesity groups (F=90.484 for males and F=33.904 for females at P<0.00001**). Weight gain caused by increased adiposity might be thought responsible for observed higher ranges of BMI in both the genders of the overweight/obese group.

Results appear seemingly suggestive of the negative impact of increasing age and obesity on circulating levels of HDLC. A marked decline in good cholesterol could be thought to slow down the process of elimination of extra fat from the blood specifically for the cleaning of arteries. The diminished proneness of women to cardiovascular onslaught possibly due to the cardioprotective role of estrogen (Subbiah, 1998, Mendelsohn and Karas, 1999 and Subbiah,2002) could be the reason behind the higher risk of heart diseases in men than women.

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Understanding the Impact of the Covid-19 Pandemic upon the Elderly of Kashmir: A Qualitative Study

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ABSTRACT

The purpose of this study was to understand the health challenges suffered by elderly people during this pandemic (Vovid-19), which has taken a heavy toll on their lives and aggravated their problems further. A qualitative approach was utilized to collect data from elderly people in the region of Kashmir. A total of ten in-depth, open-ended interviews were conducted with elderly people aged 60 years and above. The data was analysed thematically and it was found that elderly people were facing several health problems due to the widespread pandemic. The harsh winter of Kashmir was also observed to be adding to the problems of the elderly people.

Keywords : Covid, Elderly, Problems

Coronavirus Disease 2019 (COVID-19) is a highly transmissible disease caused by a novel Coronavirus that emerged in Wuhan, China, and was named Severe Acute Respiratory Syndrome Coronavirus 2

(SARS-CoV-2) by the International Committee on Taxonomy of Viruses (ICTV) (Gorbalenya *et. al.*, 2020). The attacks of the virus on humanity worldwide led World Health Organization (WHO) to declare it a Pandemic. This pandemic has created a significant impact on the survival and sustenance of the human population. The harmful effects of this pandemic will not be distributed equally. They are expected to be most damaging for children in the poorest countries, in the poorest neighbourhoods, and for those in already disadvantaged or vulnerable situations (UNICEF). Both of the two sections, viz, elderly and children of the population are not having a much-developed system of immune in their bodies. The virus can have an enormous impact on them. They can easily become prey to the virus.

The coronavirus disease 2019 (COVID-19) pandemic has cast a huge impact on global public health. This pandemic has led to a dramatic crisis in healthcare systems worldwide and older people have been among the most disadvantaged. The COVID-19 pandemic has caused untold fear and suffering for older adults across the world. According to the World Health Organization, older adults in aged care homes are at a higher risk of infection living in an enclosed environment with others.

The COVID-19 pandemic has also brought unprecedented challenges and a disproportionate threat to humanity, especially to older adults' lives, relationships, and well-being. Given the spread of the coronavirus and its impacts on human health, no one knows how long this pandemic will last and its long-term toll on older adults living in a confined environment (Adhikari *et. al.*, 2020). In this context, it becomes important to understand the impact of Covid-19 on the day-to-day lives of the elderly. Given the inattentive attitude of people towards the elderly, it also becomes essential to study the patterns of coping mechanisms that elderly people are adopting. People who are vulnerable to the Coronavirus are always treated cautiously. People maintain distances from them. The elderly, being already the victims of social isolation are suffering from many problems in this social distancing arena. Public Health workers are having many apprehensions in their

minds while dealing with them. Family members are actively advising them to stay inside and not to get close to anyone. Children are kept away from them. They are being kept aloof from social functions.

In this situation, they are unable to meet their medical requirements. The level of social isolation has significantly aroused. With that, they have also developed many types of psychological distresses. Their depression level is increasing day by day. They are having a threat in coming out from their home in the evening for a walk. Hence, it becomes very important to understand the problems the elderly are facing amid the Covid-19 pandemic.

Kashmir, a northwestern region of the Indian Subcontinent is not much developed in terms of health care systems. The elderly people are yet to receive any significant attention in the policies of the government. The issues, which the elderly face worldwide are not uncommon in Kashmir as well. Owing to the social support system, the elderly somehow feel their needs getting fulfilled. Yet, the harsh climatic conditions in winter, political disturbances, poor health care system, and the lack of sound social security policy add numerous miseries to them. The fall of the Covid-19 Pandemic has thus also had a significant impact on the lives of the elderly of Kashmir. Covid-19 is now universal, its impact on the elderly elsewhere in the world has already stretched its legs to Kashmir. This scenario also needs to be studied.

Review of Literature

As we age, health conditions associated with aging, particularly non-communicable diseases such as heart disease, cancers, and metabolic and autoimmune diseases, combined with treatments for these diseases and with immune senescence, substantially affect responses to vaccines and infectious diseases (Alpert, 2019). The elderly, especially those with underlying diseases, are more susceptible to COVID-19. Subsequent studies involving more people demonstrated that the prevalence of the disease was higher in individualse" 60 years of age and above than in younger individuals (Liu, *et al.,* 2020). In developed countries with a very high elderly

population, mortality due to COVID-19 was reportedly 83.7 per cent for those >70 years and 16.2per cent for people younger than 69 years (Abbatecola, 2020). Underlying diseases were noted in 32–51per cent of cases (Chen, *et al.,* 2020). A study also found that SARSCoV-2 infection is more often associated with detrimental effects in the geriatric population than in younger age groups (Wu, and McGoogan, 2020).

Covid-19 is highly transmissible and causes relatively high mortality, particularly in aging populations. The geriatric population faces special risks for COVID-19. Predisposition and severe outcomes enhance the risks for elderly people. Older age and underlying diseases have been noted as the main factors for vulnerability to COVID-19. (Garnier-Crussard *et. al.*, 2020) Geriatric individuals are at a higher danger of COVID-19 contamination because of their diminished insusceptibility and body holds, just as numerous related comorbidities like diabetes, hypertension, interminable kidney sickness, nearness of malignant growth, and ceaseless obstructive pneumonic malady.

As the threat of Corona Virus is still intact, the approaches to address the Pandemic are going to be challenging. The Health Care sector has seemingly increased the burden on it. The problems, as suffered by the elderly vary from biological to social to psychological. There is a need to come up with a multi-layered approach to address the problems created by the pandemic upon the elderly. More innovative services should be developed to address the increasing demands for new approaches to delivering healthcare in these difficult times and to establish resilient healthcare systems for older people. (Lim, *et al.,* 2020).

Even before SARS-CoV-2, human coronaviruses and influenza viruses have been known to impact older people disproportionately, yet therapeutic strategies to protect this fraction of the population, except vaccines, have largely failed. (Geller, *et. al.,* 2012). The severity of COVID-19 is, of course, strongly associated with comorbidities such as hypertension, diabetes, obesity, cardiovascular disease, and

respiratory system diseases (Age, 2020). The elderly are more vulnerable to such diseases.

Besides, poor health status, weak immune function, lowered organ function, increased probability of multiple underlying diseases, and poor attention to personal health can increase the susceptibility to various diseases in the geriatric population. Medical centers and physicians are the key players in impressing upon patients the importance of seeking necessary health care services promptly.

As for the available data is concerned the risk of COVID-19 infection was significantly higher for older adults with underlying multimorbidity who live in long-term care facilities, aged care homes, nursing homes, and similar facilities.

Research Methodology

This study employed an exploratory qualitative research design while using semi-structured interviews and a purposive sampling approach. The data collection methods for this formative research included in-depth semi-structured interviews (IDIs) with elderly people aged 60 years and above. The semi-structured interview guide has been rigorously prepared for the study. Furthermore, a background questionnaire was also used to draw the interviewee's profiles related to their demographic and socioeconomic background.

Kashmir province has ten districts namely: Kupwara, Bandipora, Baramulla, Srinagar, Ganderbal, Budgam, Pulwama, Kulgam, Shopian, and Anantnag. This study used purposeful sampling to collect data from elderly people in all districts.

Before beginning the interviews, the participants were ensured of the completely voluntary nature of participation in the study and their right to withdraw from it at any stage. The duration of the interviews varied from 25 to 40 min. With participant permission, all interviews were audio-recorded. After conducting and recording each of the interviews, their audio files were immediately transcribed verbatim.

Sampling continued until data saturation and until no further information was extracted. The thematic analysis has been done to explore the experiences of elderly people during COVID-19. Thematic analysis is a method for identifying, analysing, and reporting patterns in qualitative data (Braun & Clarke, 2014).Below the table the background profile of the participants has been enumerated:

Table 1

Characteristics of the Participants

A Qualitative Study of Elderly people; exploring the experiences of elderly people during COVID-19

S. No.	Participants (P)	Age	Gender	Education	Occupation	Category
01.	Participant 1	60	Male	Matriculate	Daily Earner	BPL
02.	Participant 2	64	Female	Illiterate	Housewife	BPL
03.	Participant 3	66	Female	Illiterate	Housewife	BPL
04.	Participant 4	69	Female	Primary Pass	Housewife	BPL
05.	Participant 5	70	Male	Illiterate	Shopkeeper	AAY
06.	Participant 6	72	Male	Matriculate	Shopkeeper	BPL
07.	Participant 7	76	Female	Illiterate	Housewife	AAY
08.	Participant 8	77	Male	Primary pass	Houseman	AAY
09.	Participant 9	81	Male	Middle Pass	Houseman	BPL
10.	Participant 10	83	Male	Illiterate	Houseman	AAY

Table 2

The themes generated after data analysis included

Themes
• The adverse impact of Covid-19 on the physical and mental health of the Elderly
• Reduced healthcare accessibility impacted healthcare of elderly people
• Increased anxiety and fear
• Financial hardships due to Covid-19 affected the psychological health of the Elderly

Theme 1: Adverse Impact of Covid-19 on Physical and Mental Health

This Covid-19 pandemic has affected the physical health as well as mental health of elderly people, adversely. The studies have found that the severity and fatality of the infection are higher in the elderly, immunosuppressed patients, and people with pre-existing respiratory illnesses, chronic medical problems as well as under-detection of symptoms (Team, 2020). Many elderly people revealed that Covid-19 had led to hitherto unknown and unseen health challenges. It aggravated their health issues further and made them fully dependent on others owing to the fear of moving out due to the spread of infection. One of the participants stated:

"I used to visit doctors without accompanying others but due to the pandemic my sons don't allow me to move outside. It has deteriorated my health as I feel caged". (P1)

Further, some elderly people mentioned that *"our health systems are not prepared enough to deal with health emergencies. No mechanism has been put in place to ensure routine healthcare services to the general masses; you can easily understand the fate of elderly people". (P6)*

One of the elderly said that *"people are scared at the name of hospitals which have been turned into quarantine centres or what we in other words can say contamination zones. I will prefer to die at home than visit health centres to seek treatments. Normal death is far better than death caused by a coronavirus. Dying with covid-19 has a lot of social stigmas attached to it". (P9)*

Theme 2 : Reduced Healthcare Accessibility

The pandemic has widely resulted in healthcare inaccessibility for elderly people. Preventive public health measures like social distancing have limited access to routine health care services. The elderly believed that they had never seen such trying times in their lives. The existing healthcare systems were not equipped with such infrastructure which can cater to the growing healthcare demands of

people. The unpreparedness to mitigate the consequences of the pandemic is evident. With a little reflection, one can gauge the challenges faced by healthcare providers in the delivery of healthcare services to people. One of the participants said:

"It seems doctors themselves are frightened about the fear of infection despite wearing protective suits. The doctors' attitudes toward the patients have turned violent. They are seen shouting and abusing the patients". P2)

Consequently, people prefer not to visit hospitals. Besides, the existing healthcare systems are not in a position to bear the growing healthcare burdens. The Out Patient Department (OPD) facilities had been closed for the general masses which consequently affected the health of elderly people.

Theme 3 : Increased Anxiety and Fear

Generally, it has been observed that when a stressful event occurs, certain sections of the population such as females, children, and the elderly are at a higher risk of experiencing difficulties (Banerjee, 2020 a & b). The Covid-19 pandemic is likewise adding to the miseries of elderly people who are finding themselves at a crossroads. Precautionary measures like social distancing and isolation have led to a spiking rise in fear and anxiety among elderly people. A study found that social distancing had deepened the feeling of isolation which in turn adversely impacted a person's mental health and spiraled into depression (Gazendam, *et al.*, 2020). One of the participants stated:

"*We used to assemble at the nearby Anganwadi centre of our locality and share our problems. We were at ease and were living our lives happily. But after the pandemic, everything changed. As we are caged, life has changed meaning for us. Our hearts are filled with grief. We are living in constant fear and depression". (P3)*

A sense of uncertainty and unpredictability prevails everywhere. This perceived uncertainty related to Covid-19 had generated stress

and fear among elderly people. There is chaos and confusion about the future life. Many elderly people stated that they were yearning for this pandemic to fizzle out, so that life could get normalized.

"In the five prayers, I am constantly supplicating for the end of this pandemic which has devastated the world order and made human lives miserable". (P10)

Another thing that had increased the stress levels among elderly people, was the absence of treatment for the Covid-19 disease. Few elderly people reported that they were highly scared of falling ill, as they experience false illusions of virus contamination. The simple flu or sneezing did not prevent them from associating it with the coronavirus. Consequently, they get panic.

Theme 4 : Financial hardships due to Covid-19 affected the Psychological Health of the Elderly

Many elderly people stated that the pandemic had economically hit their families hard and they felt it very difficult to get both ends meet in this time of crisis. This pandemic had adversely affected the economic conditions of the family and they stated that they will have to start over again to get settled in their lives. One elderly woman revealed that:

"My sons are running a small restaurant (Dhaba) in the nearby bus stand. But, the prolonged lockdowns due to Covid have deprived them of their livelihood. They are not in a position to feed their families properly. In such circumstances, how can I complain about anything? I now do not bother about my health issues. I am only concerned about my family and I remain under constant stress, due to the prevailing condition of my family". (P8)

Such financial hardships related to the pandemic had translated into widespread emotional distress and increased risk for a psychiatric condition. The elderly people's psychological problems had aggravated further due to the pandemic. It had taken a heavy toll on the mental health of the elderly. Moreover, increased mental

health issues were also impacted by the lack of support and cold responses from others (Kar, *et. al.,* 2020). One elderly couple mentioned that :

"The attitude of our family has grown very indifferent towards us. They have left us in a separate room and never ask about our well-being". (P9)

Discussion

The Covid-19 pandemic has highlighted the need for adequate nursing care for the elderly. A strong public health response and global preparedness to protect the elderly at risk for infectious diseases, including Covid-19, are needed (Fischer, 2020). A strong public health response in the form of urgent and joint action is needed to generate (global) preparedness and protect this at-risk group.

Social isolation among older adults is a 'serious public health concern' because of their heightened risk of cardiovascular, autoimmune, neurocognitive, and mental health problems (Gerst-Emerson, 2015). Social isolation because of a pandemic brings other psychological issues such as fear of contracting the infection (for self and family members), fear of quarantine or hospitalization, death (of oneself or family members), fear of being abandoned, anxiety related to day to day provisions, regular health check-up visits and worries about family members living far away. It has been demonstrated that social disconnection puts older adults at a greater risk of depression and anxiety (Santini, *et al.,* 2020).

In context to the thematic analysis and the type of background presented herewith it can be easily recommended that:

- Online technologies can be used to build and maintain social support networks and a sense of belonging. Healthcare workers, community outreach projects, and voluntary organizations have an important role in providing support for the elderly throughout the social isolation period (Girdhar, *et al.,* 2020).
- A few commentaries (Banerjee, 2020; Jawaid, 2020) have glanced at the need for special advocacy for the elderly

mental health, mentioning digitalization of connections as a priority and warning about loneliness and social disintegration as the major offshoots of the pandemic and resultant lockdown.

- Nevertheless, some older adults may experience great distress and require community support or at times clinical intervention for their mental health concerns. As such, most people are more likely to need support and the provision of resources to ease their feelings, rather than traditional diagnosis and clinical treatment (Hobfoll, *et. al.,* 2007). A strong public health response and global preparedness to protect the elderly at risk for infectious diseases, including COVID-19, are needed (Fischer, 2020).
- All health care providers involved must have knowledgebase and cultural sensitivity to the care needs of the elderly; this is also required for the volunteers working in emergency care situations. (Dyer, *et. al.,* 2008). If elderly people are instructed and required to remain homebound, it is important to ensure that daily needs such as groceries and medications are delivered regularly, and urgent action is needed to mitigate the mental and physical health consequences of social isolation (Armitage, and Nellums, 2020). The COVID-19 pandemic has revealed the need for a new era of care for older people, including the use of communication technology, more home-based care, and novel approaches to enhance the resilience of the elderly to stress and depression (Chen, 2020). This resilience will build stronger elderly communities with better physical and mental health.

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Socio-economic and Demographic Disparities in the Health Status of the Elderly in India

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ABSTRACT

This study explores (i) the health status among the elderly in India; (ii) variation in the health status among the elderly by their socioeconomic characteristics; and, (iii) the morbidity among the elderly from a different group of diseases. It used data collected by the National Sample Survey Organisation (NSSO) for its 75th round survey, namely 'Social Consumption in India-Health' which was conducted in the country between July 2017 and June 2018. The study employed age-adjusted logistic regression (OR) for finding the dependence of 'Poor overall health status' with background characteristics of the elderly. It was observed that poor perceived health status rose with the increase in the age of respondents and was comparatively higher among women, those who

lived without their spouse, resided in urban areas and were economically dependent, than their counterparts. In the case of physical immobility as well, a substantial increase in the proportion of persons suffering from this phenomenon was observed with an increase in age. It was also higher among women who lived without their spouses. The morbidity profile of the elderly found a high prevalence of chronic diseases, including cardiovascular diseases, endocrine, metabolic and nutritional group of diseases, and musculoskeletal ailments among the elderly.

The elderly population in India has substantially increased in recent years. As per the 2011 census, 104 million elders were living in the country (GOI, 2016). This is projected to increase to 315 million by 2050, resulting in the country having the second-largest elderly population in the world. The commendable reduction in the fertility rates and substantial increase in the expected years of life for its population are attributed as prominent factors behind the rising aging phenomenon in India. The total fertility rate in India was 5.9 years in 1950 which dropped to 2.3 in 2013 and is projected for further decline by 2050, at 1.88. On the other hand, life expectancy stood at 36.2 years in 1950; it increased to 67.5 years in 2015 and is expected to further rise to 75.9 years by2050.With such anticipated demographic changes, the share of the elderly population is expected to be 19 per cent in 2050, whereas it was a mere 5.4 per cent in 1950 and 9 per cent in 2011 (UN, 2015).

An increase in the prevalence of non-communicable diseases (NCDs) has accompanied the growth in the proportion of elderly persons in India. This is visible in the shift in the causes of deaths and disease burden. Deaths due to NCDs have surpassed mortality levels caused by infectious diseases, and maternal and perinatal conditions in the past few years (Agarwal, *et al.*, 2016). Similarly, there has been a considerable increase in morbidity rates particularly from the NCDs in India in recent years with increasing DALY (Agarwal, *et al.*, 2016, IHME, 2014). According to the National

Sample Survey Organisation (NSSO, Government of India) for its 52nd Round survey, the proportion of ailing persons per thousand population for the fifteen days before the survey was 55 for rural and 54 for urban areas in 1995-96 which has increased to 89 and 118 respectively for both the rural and urban areas in 2014. Such prevalence was 327 for people who are aged 70 years and above (GOI, 2015). Furthermore a substantial increase in medical expenditure is evident between 2004 and 2017-18 in the country. During this period, the average medical expenditure per hospitalisation increased from Rs. 5,695 to Rs. 16,676 for the rural population and from Rs. 8851 to Rs. 26,475 for their urban counterparts (GOI, 2006, 2019) which could be the result of this changing pattern of morbidity and disease prevalence in India.

The impact of aging is not uniform in India which is reflected in the causes of deaths and morbidity prevalence. A high level of mortality and morbidity burden related to a demographic and epidemiological transition in the states which have a relatively higher proportion of the elderly population was evident. Morbidity herein was unduly concentrated in the older ages. In states, which were at a comparatively advanced stage of the demographic and epidemiological transition, such as Kerala and Tamil Nadu, NCDs were the major cause of death, while infectious diseases, and maternal and child mortality constituted major causes of death in laggard states in demographic-epidemiological transition like Uttar Pradesh and Bihar (GOI, 2018). Similarly, the former states, with a higher proportion of the elderly population, had a higher prevalence of ailments than the latter laggard states (GOI, 2015). Even though there are numerous studies on the overall health status of the people in India, studies on the health status of people belonging to the elderly age group are scanty. This study, therefore, explores (i) the health status among the elderly in India; (ii) variation in the health status among the elderly due to their socioeconomic characteristics; and, (iii) the morbidity among the elderly, which is attributable to different groups of diseases.

Method

The study is based on the data collected by the National Sample Survey Organisation (NSSO) for its 75th round survey, namely 'Social Consumption in India-Health', which was conducted in the country between July 2017 and June 2018. The survey covered 1,13,823 households spread across every district of India. A total of 5,55,115 individuals from 14,258 villages were surveyed. The final sample was selected using the stratified multi-stage design. Data collection was carried out using the interview method, which was conducted with the help of a pre-designed survey schedule. To attain more accurate data, an attempt was made to collect information related to the ailments of each household member from the concerned member. The ailments reported by the respondents were based chiefly on their perceptions. In the case of a small set of diseases such as diphtheria, whooping cough, TB, HIV/AIDS, cancers, diabetes, glaucoma, and hypertension, a medical diagnosis was made for classifying the reported condition (GOI, 2019). For all other cases, the diseases were identified by the respondents themselves, occasionally with the help of the interviewer to whom they reported their symptoms.

For analysing the health status of the elderly, the data of 42,762 persons above the age of 60 years was used. The present study measured the 'health status' of people by making use of a composite dimension of health, which encompassed perceived health status, immobility, and disease condition. The first dimension, 'perceived health status', expressed the person's perception of the status of their physical and mental health. Such a question was explicitly posed in the survey and the respondent had to choose between three options - 'excellent/ very good', 'good/fair', and 'poor'. The first two options were together taken as 'good,' while the latter was categorised as 'poor.' In the second dimension, the physical mobility of elders was considered as an important indicator of physical health as well as a pointer to the level of dependence of the elderly person on others for aiding his physical movement and activities of daily living. The study assessed the physical health status of people through the response to a survey

question on 'physical mobility'. The response categories were - 'physically immobile: confined to bed/confined to home', 'able to move outside but only in a wheelchair', and 'physically mobile'. The present study considered the first response as 'physically immobile' and the latter two responses were grouped as being 'physically mobile.' In the third dimension, disease conditions were assessed. Two survey questions –'whether suffering from any chronic ailment,' and 'whether suffering from any other ailment any time during the last 15 days' – were used for this dimension. Overall health status was measured by coalescing all these three dimensions. Health status was considered as 'poor' if their perception of their health was poor, they were physically immobile, and had experienced any illness. Alternatively, it was deemed to be 'good'. Moreover, the current disease pattern of the elderly has been further subdivided into specific groups, based on the nature of the disease in question (reported diagnosis and/or main symptom). This has been done to represent the disease classification-specific morbidity level among the study population.

The current analysis has been segregated into three parts. At the outset, the difference in the health status of the study population is examined in consonance with their socio-economic and demographic characteristics, using bivariate analysis and chi-squared test significance. In the second step, the study uses an age-adjusted logistic regression to understand the independent impact of each of the socio-economic and demographic groups in determining the overall health status of the elderly population. In the third part, disease-wise morbidity profile (self-reported) among the elderly has been analysed to understand the contribution of each disease in determining the overall health status. The 'p' values <0.05 were considered for statistical significance for all the statistical tests used in the study. All the analyses were performed using SPSS software 12.0 (SPSS Inc., Chicago, Illinois 60606).

Findings and Analysis

The survey data comprised 42762 elders aged 60 years and above. A total of 64 percent of the respondents were between the ages of 60 years and 69 years. A basic profile of the respondents has

been presented in Table 1. Men constitute the majority group with a share population of 51 per cent. Furthermore, 64.7 per cent of respondents were married and lived with their spouses. A total of 67.1 per cent of the sample resided in rural areas, while the remainder lived in urban geographies. A large proportion of the elderly were Hindus (83.33 %), followed by Muslims (10.6 %) and Christians (2.86 %). Over half of the respondents (52.8%) were literate, while 30.0 per cent claimed to be economically independent.

Health status and Socio-economic and demographic characteristics

The bivariate results on disparities in health status, in terms of 'poor perceived health status', 'physical mobility', 'status of ailment', and also 'the poor overall health status,' by the socio-economic and demographic characteristics of respondents have been depicted in Table 1. The table illustrates that nearly one-third of the population (27.7%) experienced diseases in their day-to-day life. Similarly, 19.6 per cent perceived their physical and mental health status to be poor. In terms of physical immobility, a critical indicator indicating bodily constraints in being able to discharge activities of daily living, the situation was relatively better than other dimensions of health status. It was observed that 7.5 per cent of the elderly population experienced some form of physical immobility. However, overall 40.4% of elders reported poor health status while considering all these three dimensions of health together.

Table 1

Socio-demographic determinants of the perceived status of health, physical mobility, morbidity level and combined health status of the elderly population in India, 2017-18

Variables	Poor perceived health status	Physically immobile	Having any disease#	Poor overall health status	Total (N): 42762
Demographic					
Age	***	***	***	***	
60-69	13.6	4.5	25.1	34.1	27769
>=70	31.3	13.5	32.9	52.9	14993

Sex	***	***		***	
Male	17.5	6.2	27.5	38.0	21904
Female	21.7	8.9	27.9	42.8	20858
Marital Status	***	***	***	***	
Currently married	16.2	5.2	26.1	36.0	29324
Others	25.9	11.8	30.6	48.6	13438
Place of Residence	***		***	***	
Rural	21.4	7.5	24.6	39.0	23599
Urban	16.1	7.5	34.0	43.3	19163
Religion	***		***	***	
Hindu	19.3	7.4	26.9	39.7	33243
Non-Hindus	21.3	8.1	32.0	44.3	9519
Socio-economic					
Education	***	***	***		
Illiterate	21.8	8.7	23.4	39.1	20194
Literate	17.0	6.2	32.8	42.0	22568
Economic dependence	***	***	***	***	
Independent	23.7	9.9	28.7	30.1	12404
Dependent	10.1	2.1	25.4	44.9	30351
Total	19.6	7.5	27.7	40.4	42755

***p<=0.001Source: Authors' calculation

Table1 depicts the decline in the overall health status of people with a corresponding increase in their age. Approximately one-third (34.1%) of the respondents between the ages of 60 years to 69 years reported poor health status, while the equivalent figure for those aged 70 years and above was 52.9 per cent ($p < 0.001$). A total of 42.8 per cent of women declared that their overall health status was poor as compared to 28.0 per cent of men ($p<0.001$). Moreover, elders who lived with their spouses reported lower levels of poor health status (36.0%) than elders who lodged without their spouses (48.6%, $p<0.001$). The study also assessed the overall health status of

respondents in consonance with their financially dependent status. It classified those elderly as being economically dependent and stated that they relied, either partially or fully, on others for meeting their economic needs, while the rest were classed together as 'independent'. The bivariate analysis showed a significantdisparity in overall health status by place of residence (rural 39.0%, urban 43.3%, p <0.001), religion (Hindu 39.7%, non-Hindu 44.3%, p <0.001), and economic dependence (independent 30.1%, dependent 44.9 %, p <0.001).

Multivariate analysis, using logistic regression,was performed by taking overall health status as the dependent variable – 1 for overall health status being 'poor' and 0 for 'good' –while socio-economic and demographic characteristics were taken as independent variables. The study performed age-adjusted logistic regression for men and women separately to understand the gender-wise disparity in reporting poor health status among the older age groups. The results are given in Table 2.

Table 2

Age-adjusted logistic regression results for 'poor overall health status' with background characteristics

Variables	Odds Ratio (95% CI)		
	Males	Females	Total
Marital Status			
Currently married	1.00	1.00	1.00
Others	1.19 (1.10-1.28)***	1.82 (1.72-1.93)	1.51 (1.45-1.580)***
Place of residence			
Urban	1.00	1.00	1.00
Rural	0.85 (0.80-0.90)***	0.90 (0.85-0.95)***	0.88 (0.84-0.92)***
Religion			
Hindus	1.00	1.00	1.00
Non-Hindus	1.14 (1.06-1.21)***	1.29 (1.21-1.38)***	1.21 (1.15-1.27)***
Education			
Illiterate	1.00	1.00	1.00
Literate	1.19 (1.12-1.27)***	1.11 (1.04-1.18)***	1.17 (1.13-1.23)***
Economic independence			
Independent	1.00	1.00	1.00
Dependent	2.06 (1.94-2.18)***	1.65 (1.49-1.82)***	1.76 (1.68-1.84)***

***p<=0.001*Source: Authors' Calculation*

As highlighted in Table 3, among elderly men, marital status, place of residence, religion, literacy and economic independence share a significant relationship with overall health status. Among elderly women, place of residence, religion, literacy, and economic independence showed a significant relationship with health status. Remarkably, economic independence (OR 1.76; CI 1.68-1.84) and marital status (OR 1.51; CI 1.45-1.580) played a more significant role in influencing overall health status, as compared to other background characteristics. An important point to note herein is that the overall health status of elderly respondents in rural geographies was better than that of their urban counterparts (OR 0.88; CI 0.84-0.92). Furthermore, those elderly who belonged to non-Hindu religious groups as well as those who were literate had relatively poor health status than the corresponding population.

Morbidity Profile

A major reason forthe poor health status of the elderly is the prevalence of various types of ailments. In India, about one in three elderly persons (278 people per 1000 population) suffered from ailments. The reported ailments have been sub-divided into two categories – acute (short duration ailment, lasting less than 30 days) and chronic (long duration ailment, lasting for 30 days or more or if the respondent has been taking a course of medical treatment for one month or more and was continuing at the time of the survey), as per the standard criterion used by the NSSO. The study found that out of every thousand elderly persons, 225 were suffering from chronic ailments, while another 59 experienced some form of acute ailment.

The detailed description of the disease-group-wise morbidity profile, as reported in NSSO, for the elderly in India has been presented in Table 3. The prevalence of chronic degenerative diseases including cardiovascular diseases, and endocrinal, metabolic, nutritional, and musculoskeletal diseases was higher among the elderly population – both men and women–in the country. While the prevalence rate of cardiovascular diseases stood at 97.7 per thousand persons, that of endocrinal, metabolic, and nutritional diseases, as a whole, was 70.0

for every thousand persons. Similarly, the ailment from musculoskeletal diseases prevails at 43.9 per thousand population. These patterns of a large proportion of the elders suffer from Cardiovascular diseases, followed by Endocrine, Metabolic, Nutritional, Musculoskeletal, etc are more or less the same for both rural and urban areas.

Table 3

Morbidity profile (self-reported) of elderly people in India according to sex and place of residence, 2017-18 (per 1000 population)

Morbidities	Rural		Urban		Total
	Male	Female	Male	Female	
Infections	34.1	35.8	25.0	24.0	31.5
Cancer	1.7	0.7	1.7	2.4	1.5
Blood Diseases	1.1	1.3	5.6	5.9	2.7
Endocrine, Metabolic, Nutritional	47.9	47.0	118.2	113.7	70.0
Psychiatric & Neurological	15.7	13.6	14.4	9.4	13.7
Genito-Urinary	4.0	1.9	4.8	2.4	3.2
Eye/Ear ailments	5.6	7.6	4.6	4.6	5.9
Cardiovascular	74.0	83.5	147.0	126.2	97.7
Respiratory	23.5	21.7	26.8	20.1	22.8
Gastro-Intestinal	8.4	9.5	5.4	7.3	8.1
Skin	3.3	2.7	2.3	2.2	2.8
Musculoskeletal	40.9	47.6	29.5	56.0	43.9
Injuries	2.9	1.8	1.3	2.2	2.2
Others*	3.1	4.7	5.1	7.1	4.6
Any Acute disease	58.9	61.1	54.7	49.5	57.4
Any Chronic disease	186.7	192.9	295.3	294.2	224.3
Any Disease	242.1	250.4	344.7	336.5	277.2

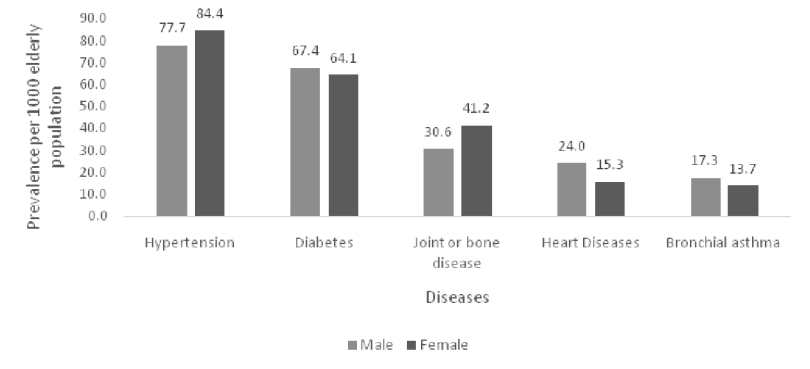
Note: **include ailment categorized as "symptom not fitting into any of the above categories" and "could not even state the main symptom" in the survey.*

Source: *Authors' estimations from NSSO-75th Round Data*

Despite high prevalence levels of chronic degenerative diseases in both rural and urban geographies of the country, there existed considerable variation in occurrence levels in the two areas. The

prevalence of chronic diseases was relatively higher in urban areas, while that of acute diseases was greater in rural geographies. This was observed in the case of both the male and female populations in the country. In general, the overall prevalence of diseases was higher in the urban areas, the only exceptions being infections and other acute diseases. The cardiovascular diseases and Endocrine, Metabolic, and Nutritional group of diseases are prevalent at high rates in urban elderly while their prevalence is about half among their rural counterparts.

Figure 1: Prevalence (per 1000 elderly population) of major diseases among the elderly population, India, 2017-18



Source: *Authors' estimations from NSSO-75th Round Data*

The study has further explored the importance of major diseases among the elderly by calculating their prevalence rates. The prevalence rate (per 1000 elderly population) of leading diseases is shown in Fig 1[1]. From the graph, it is evident that hypertension is the most reported chronic ailment, followed by diabetes. A substantial gender difference is apparent in the prevalence rate of hypertension and joint or bone disease. A higher proportion of women reported suffering from these ailments than men.

1. 'Bronchial asthma' includes bronchial asthma/ recurrent episodes of wheezing and breathlessness with or without cough over long periods or known asthma, while 'joint or bone disease' includes joint or bone disease or pain or swelling in any of the joints, or swelling or pus from the bones.

Discussion

The authors have analysed the inequalities in the health status of the elderly in India, concerning their socioeconomic and demographic characteristics. Given the improved life expectancy in India and the increasing number and proportion of the elderly population in the country, under the ongoing process of demographic epidemiological transition, it becomes imperative to understand the overall health status of the elderly and the existence of socioeconomic and demographic disparities in it. For this study, the authors have made use of the 75thRound of NSSO data, collected between July 2017 and June 2018. The background profile of the elderly respondents in the present study indicates that a higher proportion of the elderly was in the age group 60-69 years, males, currently married, literate, living in rural areas, Hindus, and economically dependents compared to their other counterparts.

Understanding the health status of the elderly, alongside their socio-economic and demographic characteristics, is important not only for policymakers since it helps to ascertain both the total burden of disease in a country and the consequent healthcare requirements of the population, but also aids in predicting survival levels of the population to higher ages. Self-reported health status, as examined in the study, is considered to be a valid measure of a respondent's objective health status, a predictor of the risk of mortality and healthy longevity (Jagger, *et al.,* 1993; McCallum, *et al.,* 1994; Lee, 2000; Ghosh and Husain, 2010). This study has assessed 'poor perceived health status' using a composite measure, comprising perceived illness, immobility, and disease condition for the elderly people who live in India. In the study, it was observed that poor perceived health status rose with the increase in the age of respondents and was comparatively higher among women, those who lived without their spouse, resided in urban areas and were economically dependent, than their counterparts. The age-adjusted multivariate analysis corroborates the above findings and is similar to those found in other studies conducted on the health status of the elderly population (Mini, 2009). In the case

of physical immobility as well, a substantial increase in the proportion of persons suffering from this phenomenon was observed with an increase in age. It was also higher among women who lived without their spouses. Several studies have depicted the effect of increasing age on poorly rated health status (Gilmore, *et al.,* 2002; Kelleher, *et al.,* 2003). Poor perceived health status is more likely to be reported by elderly women, those who were not literate, and those who stated that they were not working at the time of the survey.

The burden of diseases in the elderly population is significantly higher than among the younger population (Ranjan Alok, *et al.,* 2020). The increasing prevalence of chronic non-communicable diseases such as ischaemic heart disease and diabetes is a significant contributing factor to disability among the elderly (Yokota, *et al.,* 2016; Parmar, *et al.,*2018). The current analysis of the morbidity profile of the elderly throws light on the high prevalence of chronic diseases, including cardiovascular diseases, endocrine, metabolic and nutritional group of diseases, and musculoskeletal ailments among the elderly. These diseases necessitate advanced long-term treatment and care, which requires substantial investments – both public and private – into the financing of treatments and as a corollary, creates a demand for the availability of specialised medical human resources to cater to treatments. There is evidence that untreated morbidity is higher among the elderly population, particularly among those that reside in rural areas and are economically weak (Pandey, *et al.,* 2017; Srivastava, *et al.,* 2020). In India, inadequate healthcare financing by the government is associated with high out-of-pocket expenditure (OOPE), which has been frequently held responsible for catastrophic expenditure and consequent, impoverishment. It has been noted that OOPE is higher in the case of chronic diseases. For treatment sought from private hospitals, such expenditure increases considerably (Tolla, *et al.,*2017; Kastor & Mohanty, 2018). The long-term care required for alleviating such chronic ailments has been noted as a reason for elderly persons to avoid or delay access to appropriate medical care or even, leave treatment regimens mid-

way, due to mounting expenditures. Such a tendency is exacerbated among economically vulnerable populations and those elder persons who are economically dependent upon others to seek care. In current times, the COVID-19 pandemic has placed an unprecedented burden on the healthcare system. A study conducted amid the pandemic in India asserted that both access to regular primary healthcare services and continuity of care for chronic non-communicable diseases were gravely disrupted due to the pandemic (Ranjan Alok, *et al.,* 2020). This has strong implications for the long-term morbidity and mortality levels among the elderly in India.

Given the ever-increasing numbers of elderly persons in the country, as a result of the ongoing demographic and epidemiological transition, the problem of healthcare rationalisation, even during the current crisis, requires special focus. Given the scenario, efforts should be made to have more old age-friendly health policies and programmes, from the central, state, and local governments. These policies should provide a semblance of financial protection against high healthcare costs and also promote physical and mental health and well-being among the elderly population. Furthermore, preventive and promotive care particularly against chronic diseases should be strengthened.

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Cognitive Flexibility in Younger and Older Bilingual Adults: Evidence from Confrontation Naming and Alternative Fluency Task

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ABSTRACT

The current study was carried out on 30 randomly selected participants to determine the relationship between cognitive flexibility and ageing in bilinguals. The study was conducted in a quiet environment without any external interferences and followed a randomised controlled trial design. The participants were divided into two groups. The first group comprised 15 individuals in the age range of 18-25 years while the second group comprised 15 individuals in the age range of 55-70 years. Confrontation naming and the generative naming task were administered to the participants. The task had two variants, the first variant required to name the pictures/ alternate between lexical items in the first language (L 1) only while the second variant required the participants to use second language (L2). Between-group and within-group analysis was carried out to compare the younger and older adults on confrontation naming and alternative fluency naming tasks. A statistically

significant difference between the two groups was seen on the second variant only. Cognitive flexibility was affected in the second group on the second variant of confrontation naming and generative naming task showing that this skill/ability would deplete with ageing.

Keywords: Task complexity, Switching, Response Inhibition, Attention.

Ageing causes neuroanatomical and physiological changes. The cognitive deficits associated with aging are highly individualistic as the affected performance areas vary across individuals. The rate of cognitive decline also is heterogeneous. These changes can have a consequence on cognitive processing and can affect domains such as memory, attention, and executive functions (EF), (Van Uffelen, *et al.,* 2008). Executive function is an umbrella term to refer to a cluster of high-level mental processes. These processes are involved in the voluntary control of behaviour, thinking, and emotions. These processes enable individuals to cope with complex situations that imply cognitive effort. The executive functions are important for skills such as problem-solving, updating, decision-making, and reasoning.

Cognitive flexibility is considered one of the important executive functions and the term cognitive flexibility can be reflected in tasks, which require multi-tasking. In other words, cognitive flexibility is exercised in switching between chains of thoughts or actions. Cognitive flexibility would require mental processes such as attention (selective and divided attention), response inhibition, etc. Cognitive flexibility is tested practically by using a switching task. As switching would require alternating attention and inhibiting the information which is not in use. These processes would play a pivotal role.

Cognitive flexibility is assessed in younger and older individuals and there are numerous shreds of evidence to suggest that cognitive flexibility would show a decline with ageing (Brittain, *et al.,* 2012; Mueller, *et al.,* 2013; Arnautovska, *et al.,* 2017) and the processing speed also is assumed to come down with aging (Wrosch,

et al., 2006). Cognitive flexibility can be experimentally assessed by using alternating fluency tasks. The alternating fluency task operates based on the task-switching paradigm as the participant has to quickly alternately switch between the two tasks and these tasks are assumed to work on continual configuration and reconfiguration. The switching task can be non-verbal or verbal. The non-verbal task such as the Wisconsin card sorting task. The task can be modified to tap the verbal performance. For instance, the alternating fluency task can be used to tap verbal cognitive flexibility. The alternating fluency task would require the participants to switch between the two lexical categories. Cognitive flexibility is also extensively studied in bilinguals. Most of these studies have used a comparative group design where the performance of bilinguals is compared to monolinguals. As Bilinguals switch between two languages in a day-to-day context, it becomes more meaningful in assessing cognitive flexibility in bilinguals. However, in the current day scenario, it is very difficult to find monolinguals. Hence, the proficiency factor would become important. High proficient bilinguals are expected to rapidly shift between the languages compared to low proficient bilinguals. The current study compares cognitive flexibility in highly proficient younger and older bilingual adults to investigate if cognitive flexibility would decrease with ageing.

The basic premise of the study was to investigate cognitive flexibility skills in young and old bilinguals. High proficient bilinguals were not compared to low proficient bilinguals as there would be an obvious difference between the two groups and ageing was the variable under investigation in the current study. Hence only highly proficient older and younger individuals were compared on variations of confrontation naming and alternative fluency task in the current study.

Review of literature

Cognitive flexibility in younger and older adults has been investigated by a few researchers. Fleming (2007) tested the discourse and cognitive flexibility in a total of 80 younger and older adults. All the participants were neurologically healthy. The discourse task tapped

speech production while cognitive flexibility was tested through the verbal fluency task. Several qualitative and quantitative parameters like t units and c units were computed and analyzed. While the verbal fluency task used the lexical category 'animals' The results of the study showed that discourse skills did not deplete with age but the performance on the verbal fluency task did. Fleming opines that cognitive flexibility would reduce with age.

María M Richard's, *et al.*,(2019) tested cognitive flexibility in three age groups–younger-age, middle-aged and advanced-age adults–The fingers test, cognitive flexibility test, visual search task, and verbal fluency task were used to tap cognitive flexibility. The results showed that the performance varied across the age groups. The advanced age group individuals underperformed compared to the other two groups. The authors opine that neurocognitive evaluation is required for the advanced age group as they are vulnerable to cognitive decline.

Dommes, *et al.*, (2011) determined the relationship between cognitive flexibility and vocabulary abilities. 19 older and 20 younger participants took part in the study. A battery of cognitive tests was administered to the participants. Older participants performed poorly compared to younger participants. The performance speed was also lower in this age group. Regression analysis was carried out and the results showed that the performance was moderated by differences in cognitive flexibility and this population also showed difficulties in learning new words. This poor ability in learning new words was attributed to poor cognitive flexibility.

There is a clear dearth of literature as far as cognitive flexibility and bilingualism are concerned. Most of the studies have been carried out in children hence these studies may not be applicable when the cognitive flexibility in older adults is accounted for. For instance, a study carried out by Shokran, and Nicoladis (2021) tested cognitive flexibility in monolingual and bilingual children. Card sorting was administered to participants and the results of the study showed that there was a bilingual advantage in the performance.

The relationship between normal ageing and changes in cognition, particularly executive skills like slower processing and decreased inhibitory control, as well as language comprehension, is widely documented in the literature. Research on the effects of ageing, and bilingualism on cognitive flexibility is limited. However, most of the earlier studies have compared bilinguals with monolinguals or high and low-proficient bilinguals. The study aimed to compare the cognitive flexibility between younger bilingual adults and older bilingual adults matched based on bilingual proficiency in confrontation naming and alternating fluency tasks.

The major aim of the current study was to determine the relationship between cognitive flexibility and ageing in bilinguals.

Need for the study **:** The confrontation naming task is considered a basic task used to assess a person's naming ability. Based on the pictures used in the confrontation naming, the task can also impose cognitive constraints and can also tap cognitive flexibility and response inhibition as the person to main a cognitive reserve throughout the length of the naming task and also has to inhibit the responses belonging to the other lexical category. However, the task is considered simple in terms of task complexity hence alternating fluency is considered an alternative to tap naming as well as cognitive flexibility skills. In the alternating fluency task, the participants are asked to alternate between the two lexical categories. This alternative fluency task is a primary variation of the generative naming task. As stated earlier since the current study was on neurologically healthy individuals, the conventional confrontation naming and the generative naming task were constrained considering the bilingual premise.

Method

Participants

30 participants were included in the study, out of which 15 were bilingual younger adults (age range : 18-25 years) and 15 were bilingual older adults (age range : 55-70 years). The participants were selected based on purposeful sampling. Bilingual proficiency was assessed

through Question no. 10 (question number 10 allows participants to rate their proficiency-self rating), of the Language Experience and Proficiency Questionnaire (LEAP Q, Marian, *et al.*, 2007)). The self-rating required the participants to rate their proficiency using a 4-point rating scale on four domains (understanding, speaking, reading, and writing). Those who scored equal or more than 3 in the speaking domain were deemed as highly proficient bilinguals based on Hayward's criterion (Hayward, 2012). Thus, it was ensured that all the participants considered were highly proficient bilinguals. In summary, only highly proficient bilinguals were considered for the study and age was the grouping variable, i.e. based on the age of the participants, the participants were divided into two groups (group 1 and group 2).

Procedure

Confrontational naming (the selection of a specific label corresponding to a viewed stimulus, usually a picture, of a viewed object or action) and alternating fluency task were used to test cognitive flexibility. The traditional versions of confrontation naming and generative naming (to generate other members belonging to that category) were modified to suit the aim of the current study as the study involved neurologically healthy individuals. The confrontation naming had two variants. In the first variant, two pictures (one fruit and one vehicle) were presented in one power-point slide and the task of the participant was to name the pictures in L1 (First language). The second variant used two pictures presented in a power-point slide, where the common object was to be named in L1 and the animal picture was to be named in L2 (second language). In other words, the first variant required the participants to name the pictures in L1 only while the second variant required the participants to name one of the pictures (constrained by the lexical category) in L1 and name the other picture (again constrained by the lexical category in L2).

The alternative fluency task also had two variants alike the variation of the confrontation naming task, the first variant required the participants to name a vegetable and one body part alternatively in L1 only and the second variant required the participants to name common

objects in L1 and animal names in L2. The basic premise or the difference in terms of complexity was similar to the previous task. The participants were given 2 minutes to respond. In other words, the first variant required the participants to name the pictures in L1 only while the second variant required the participants to name one of the pictures (constrained by the lexical category) in L1 and name the other picture (again constrained by the lexical category in L2). The first task can be considered a monolingual task while the second task can be considered a bilingual task.

Figure 1

Schematic representation of confrontation naming task

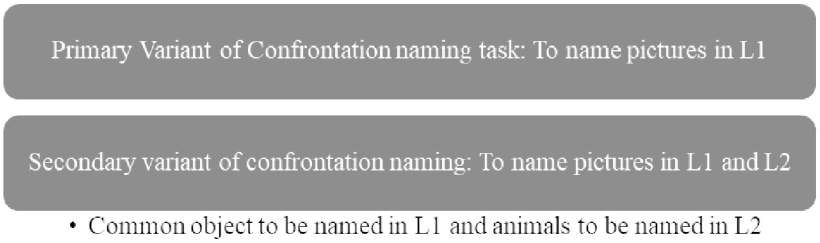
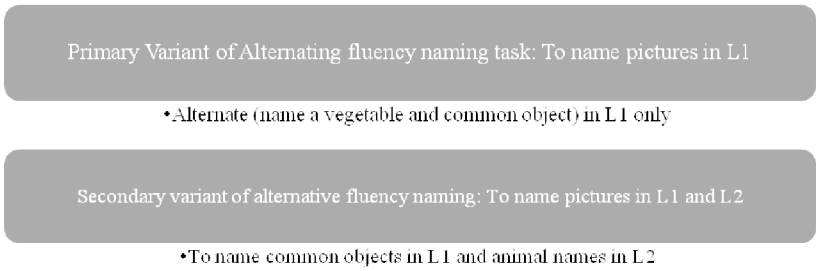


Figure 2

Schematic representation of alternating naming task



Scoring

The responses on both tasks were considered correct only when the participants gave a complete task in the instructed language. The maximum score for confrontation naming was 25 for both variants. The scores on alternating fluency varied based on the responses provided by the participants.

Results

Group 1 (younger participants) secured a score of 18 on variant 1 and 15 on variant 2 of the confrontation naming task. They secured a score of 14 on variant 1 and 12 on variant 2 of the alternating fluency task. Group 2 (Older participants) secured a score of 16 and 11 on the first and second variants of the confrontation naming task. They scored 12 and 9 on variant 1 and variant 2 of the alternating fluency task.

Table 1

Median scores for Group 1 and Group 2 participants on confrontation naming and alternative fluency task.

Confrontation naming task		*Median scores*	*Median scores*
	Group 1	18	16
	Group 2	15	11
Alternative fluency task		Median scores	Median scores
	Group 1	14	12
	Group 2	12	9

Figure 3

Comparing group 1 and group 2 on confrontation naming task

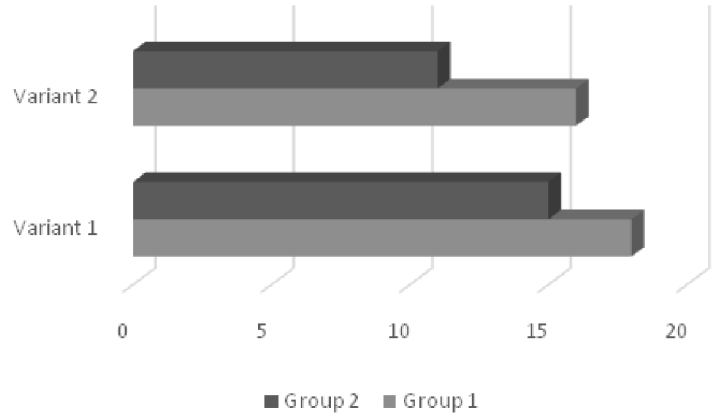
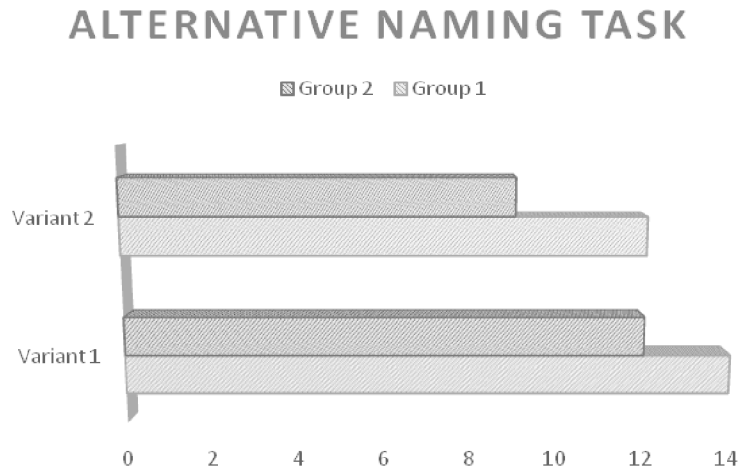


Figure 4

Comparing group 1 and group 2 on alternative fluency naming task



To verify if there was any significant difference between the two groups on confrontation naming and alternative fluency task, the Mann-Whitney U task was used (as the results on Shapiro-Wilk's test of Normality showed non-normal distribution with $p<0.05$). The Z scores for variant 1 and variant 2 of the confrontation naming task were 1.26 and 2.68 respectively and the corresponding p-value showed a significant difference only for variant 2. Similarly, the performance of group 1 and group 2 were compared on alternating fluency task, Z scores for the first, and second variant was 0.89 and 2.14 respectively. The corresponding p-value showed a significant difference for the second variant only. In summary, there was a significant difference between group 1 and group 2 on the second variant of confrontation naming and alternating fluency tasks only.

Discussion

The current study used confrontation naming and alternative fluency tasks to tap cognitive flexibility. The confrontation naming task requires the participant to name the pictures presented in a sequence. A slight variation was induced in the conventional confrontation naming

task by asking the participants to name two pictures in parallel. It was further varied by inducing language constraints. The first variant of the confrontation naming tasks required the participants to name in L1 only while the second variant of these tasks required the participants to alternate their responses in L1 and L2. Along the same lines, the alternating fluency task was also modified to cater to the population considered. The alternating fluency task requires the participant to alternate between lexical items (belonging to two different lexical categories). Here also two variants were used. In the first variant, the participants were asked to adhere to L1 only while the second variant requires them to switch between lexical categories in L1 and L2.

The confrontation naming and alternating fluency tasks were administered to younger and older participants (group 1 v/s group 2). It was clear from the median values and Mann-Whitney U test that there was a significant difference between younger and older participants on the second variant only which meant that the bilingual task was difficult for the participants. The first task as specified above used only one language while the second task used L1 and L2. Hence the cognitive flexibility task assessed in a bilingual context was effective to differentiate the young and older participants.

It is noteworthy that only highly proficient bilingual participants were enrolled in the study and the older participants exhibited difficulty in alternating the responses in L1 and L2. The older participants consumed more time relatively compared to younger participants. They produced responses in the other language and exhibited confusion about language choice as constrained by the task. This shows that cognitive flexibility would be lower in the old age group. The findings of the current study agree with some studies available in this direction (Wrosch, *et al.,* 2006; Brittain, *et al.,* 2012). However, the tasks used were different in each of these studies. The previous studies on the task have used card sorting tasks (Allport, *et al.,* 1994; Bell-McGinty, *et al.,*2002). The card sorting task is a non-verbal task. Faustino, *et al.,*(2009) examined the cognitive flexibility in younger and older individuals and the study demarcated the younger and older

individuals. Another study by Friedman, and Miyake, (2007) in this direction used alternating fluency tasks. The findings of this study showed that there was a clear difference between younger and older individuals. In the current study, different tasks with differential task complexity were used. The findings of the current study also emphasized that task complexity played a key factor in differentiating younger and older individuals on executive function per se and cognitive flexibility per specific. The primary limitation was that only a few participants were considered and the study can be extended by considering more participants. The study can also be extended to individuals with senility like Mild cognitive impairment. Thus the difference in cognitive flexibility between senility and senescence can be determined.

Conclusions

The study aimed to investigate cognitive flexibility in younger and older highly proficient bilinguals on confrontation naming and altering fluency tasks. Each of these naming tasks had two variants, with the first variant being a monolingual task and the second variant is a bilingual task. It was observed that there was a significant difference between younger and older individuals on bilingual tasks showing that cognitive flexibility would be reduced for this group and would be reflected in tasks with greater task complexity.

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Elderly Perception of Youth Behaviour, Subjective Experiences, and Intergenerational Solidarity: A Gender, Ecology and Class Analysis.

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ABSTRACT

This study tried to examine the elderly perception of youth behaviour and its effect on subjective experience and intergenerational solidarity. Furthermore, it also studied the effect of gender, class, and location on elderly experiences. 360 respondents, equal numbers of males and females, belonging to rural and urban areas, and from three different socio-economic classes (120 from a higher class, 120 middle class, and 120 lower class), with ages varying from 50 to 78 years, were randomly selected in this study. These subjects were administered the Process of family Dynamics and Intergenerational Relations Scale, developed by Verma (2015). The scale measures normative, functional, consensual processes, subjective experience, coping, and intergenerational solidarity. The findings revealed that the elderly experience differences with the younger in the Consensual process whereas no differences in the

functional process and the normative process. But they observed negative subjective experiences and used problem-focused coping to maintain solidarity. Since class and ecology have a significant effect on the elderly experience, the urban higher class and the rural elderly differ from each other in their experiences.

Keywords: Elderly perception, Consensual process, Intergenerational solidarity, Subjective experience

Intergenerational Solidarity

Intergenerational solidarity refers to the positive interaction among grandparents, parents, and children. Studies indicate that intergenerational solidarity is determined by norms of reciprocity, its acceptance and practice, in line with the individual needs, and expectation-based complementary role among family members. Researchers suggested that members of a family indulge in mutual help and follow social norms that govern the behaviour of an individual performing a particular role in the family, thus leading to cordial and harmonious relations among members of different generations (Cuyvers, 2000).

Solidarity simply is defined as doing something for someone. Sociologists explain family solidarity as a fluid concept that might strongly associate with life course events. Legros (2002) stated intergenerational solidarity to be a kind of interaction between grandparents, parents, and children in positive terms that counterbalances the ups and downs of life. It can be asymmetric or balanced depending on the degree of social support, complementary or role speculations based relations among family members and kin (Komter and Vellebergh, 2002). Nauckand Arránz Becker, (2013) stated solidarity patterns as tight-knit, intimate but distant, obligatory but detached, and irreversible.

Roberts, *et al.,* (1991) identified six elements as Associational Solidarity, Affectual Solidarity, Consensual Solidarity, Functional Solidarity, Normative Solidarity, and Structural Solidarity. Rossi and

Rossi (1990) stated parent-child relationship is pivotal for later-stage family solidarity. According to Lowenstein (2002), seven dimensions are: (a) division of labour regarding household chores and care of grandchildren (functional and normative solidarity), (b) money management (practical solidarity only), (c) economic and housing issues (functional solidarity only), (d) emotional support and care (effectual solidarity), (e) involvement in the intimate relation of other generations (affectual solidarity), (f) space and privacy (normative solidarity), and finally, (g) education of grandchildren and transmission of values (normative solidarity) explain solidarity. Thus, generational solidarity is understood as a reciprocal phenomenon in terms of support (practical, financial assistance, and social) provided by the children to their elderly parents and vice-versa (Taniguchi,and Kaufman, 2017). Research shows that family members tend to provide support to maintain solidarity based on the needs of the recipient (Lennartsson, *et.al.*, 2010). Gangopadhyay and Samanta (2017) reported that the intergenerational social contract is mediated by the economic dependence of the ageing parents on their adult children.

Drury, *et.al.*, (2016) argued that the perceived quality of intergenerational contact has positive effects on the well-being of the older generations and has the potential to reduce ageism, though the frequency of contact is not a sufficient condition to promote the well-being of the older generations. Moreover, contact quality and extended contact were also associated with positive attitudes toward older people.

In the Indian context, solidarity is seen as an outcome of shared values, beliefs, norms, and cultural traditions. The four major dimensions, such as associational solidarity, consensual solidarity, functional solidarity, and normative solidarity, have been found vital in promoting solidarity between generations (Chadha, andMalik, 2004). The patterns of relationships within the Indian context have been relatively understudied and present a unique cultural side of family interactions. The family interaction patterns, dynamics of the family, the status of the generations in the family, and the pattern of

intergenerational relations vary from culture to culture. Dottland and Lowenstein (2005) found intergenerational solidarity to be stronger in the more collectivistic southern family than in the more individualistic northern family.

India is a developing country where collectivism is a predominant feature (Sinha, 1984) and the four-generation families (great-grandparents, grandparents, parents, and children) are more prevalent. In the joint family system, more than two generations live together and perform their different roles and responsibilities. So, the family members are emotionally and materially interdependent. It is, however, important to say that besides the family's strong collective and resilient nature, autonomy and independence also characterize family life in India. There may be regional and cultural variations concerning the family structure and functioning. Even, the norms and values related to family life may vary with respect to religion, caste, social class, and residential patterns (Kapadia ,1956; Pandey, 2006). Vera-Sanso (2007) reported that increasing consumption in families decreases the support between generations. Recent evidence has predicted that the interplay between filial norms and the emerging nuclearization of family structure may produce complicated intergenerational relations. Thus, in line with this, the present study tries to examine the elderly perception of youth behaviour and how its effect on the subjective experience influences intergenerational solidarity.

In recent years, it has been noted that there has been a decline in fertility and an increase in life expectancy in Asian societies. As a result of the changing population structure, the elderly dependency ratio has accelerated (Lin & Yi, 2013). In Asian cultures, familial bonds and interdependence are appreciated and expected from people. In this context, the issue of support for the elderly population takes a prominent position. Although a three-generational household or the co-residence of adult children with elderly parents is considered the ideal realization of filial piety, the actual co-residence between adult children and elderly parents has continued to decline (Yasuda, *et.al.*, 2011). As a consequence, elderly support in the typical definition involves the one-

dimensional dependency of elderly parents on adult children. Previous studies also confirm that the intergenerational support behavior from adult children fulfills the expected filial duties to elderly parents, this is opposite to the patterns reported in the West. Therefore, this study shall explore various essential dimensions proposed by the intergenerational family solidarity model (Roberts & Bengston, 1990) by focusing on the six elements of solidarity: associational, affectual, consensual, functional, and normative solidarity. Further, family studies also reveal the role of socio-cultural changes on family functioning and the family structure. Recently, researchers have started to pay more attention to those conditions which lead to alterations in family relations (Georgas, *et al.,* 1997; Kagitçibasi, 1996). In line with this, the present work is also taking into consideration the role of family structure in intergenerational relationships. The second objective of the study is to consider the role of demographic variables (economic class and location) in intergenerational solidarity.

Method

Sample **:** A total of 360 respondents from a joint family participated in the study, 50 per cent of the respondents were male and 50 per cent female. 50 per cent of respondents each from the urban and the rural segment, 120 respondents belonged to the higher class economic condition, 120 to the middle-class economic condition, and 120 from the lower-class economic condition. Under each economic class, 30 elderly male, and 30 elderly female participants were taken. The mean age of the older male was 65 years ranging from 59-78 years and the older female mean age was 55 years ranging from 50-64 years.

Tool used**:** *Process of family dynamics and Intergenerational relations Scale,* developed by Verma (2015) was used in the study.

Consensual Process **:** Consensual process deals with the similarity and differences between values, attitudes, and opinions among the generation. This measure includes individualism vs. collectivism, traditional vs. modern values, lifestyle, food habits, household chores

and skills, role expectations, occupational preferences, security vs. risk-taking behaviour, consumption vs. savings, child-rearing practices, favoritism, respect pattern, education vs. income, and migration. Below are given psychometric properties of factors under the consensual process.

Individualism Vs. Collectivism **:** Four items were developed to measure an individual's perception of differences with the next generation in terms of individualism vs. collectivism. The range of the scale varied from 4 to 16. The alpha value of the scale is 0.41. A high score denotes that people perceive more individualistic to the next generation more.

Traditional or Older Values **:** Four items were developed to measure an individual's perception of differences with the next generation in terms of following traditional values. The range of the scale varied from 4 to 16. The alpha value of the scale is 0.80. A high score denotes that people perceive the next generations follow the rituals and customs.

Life Style **:** Ten items were developed to measure an individual's perception of differences with the next generation in terms of lifestyle. The range of the scale varied from 10 to 40. The alpha value of the scale is 0.82. A high score denotes that people perceive differences with the next generations in terms of daily lifestyle, food habits, and dressing sense in the house.

Household Work **:** Two items were developed to measure an individual's perception of differences with the next generation in terms of household work (getting children ready for school, helping to prepare breakfast, etc). The range of the scale varied from 2 to 8. The alpha value of the scale was .49. High score denotes that people perceive differences with the next generations in terms of household work.

Occupational Preferences **:** Four items were developed to measure individual perceptions about differences in the next generation to occupational preferences. The range of the scale varied from 4-16.

The alpha value of the scale was .51. High score denotes that people perceive differences between the next generations in terms of occupational preferences.

Security vs. Risk-Taking Behaviour **:** Twoitem was developed to measure individuals' perception about next-generation preferences in terms of private or government jobs. The range of the scale varied from 2 to 8 and the alpha of the scale was .56. High score denotes that people gives a risk-taking attitude and prefer government jobs.

Respect Pattern **:** Two items were developed to measure an individual's perception of the next generation's attitude towards giving respect to the next generation. The range of the scale varied from 2 to 8. The alpha value of the scale is .73 High score denotes that people give next-generation rearing children through beating.

Functional Process **:** Five items were developed to measure an individual's perception of the support (physical, economic, and emotional) provided by the next generation. The range of the scale varied from 5 to 20. The alpha score of the scale is .91. High score denotes that people perceive the next generation as providing the support that they are needed.

Normative Process **:** This measure includes fulfillment of familial roles, responsibilities, norms, and obligations. Below is the description of this scale.

Familial Role **:** Nine items were developed to measure an individual's perception of the fulfillment of familial roles by the next generation. The range of the scale varied from 9 to 36. The alpha score of the scale is .87. High score denotes that people perceive the next generation as fulfilling their familial roles.

Familial Responsibility **:** Three items were developed to measure an individual's perception of the fulfillment of familial responsibility by the next generation. The range of the scale varied from 3 to 12. The alpha score of the scale is .70. High score denotes that people perceive the next generation as fulfilling their familial responsibility.

Familial Norms **:** Four items were developed to measure an individual's perception of the fulfillment of familial norms by the next generation. The range of the scale varied from 4 to 16. The alpha score of the scale is .65. High score denotes that people perceive the next generation as fulfilling their familial norms.

Familial Obligations **:** Five items were developed to measure an individual's perception of the fulfillment of familial norms by the next generation. The range of the scale varied from 5 to 20. The alpha score of the scale is .93. High score denotes that people perceive the next generation as fulfilling their familial obligations.

Subjective Experiences **:** This measure is based on individual perception of their authority, power, respect, autonomy, and the next generation's perception as a burden

Loss of Authority **:** Five items were developed to measure an individual's experiences towards authority in the family. The range of the scale varied from 5 to 20. The alpha score of the scale is .86. High score denotes that people experience a loss of authority in the family.

Powerlessness **:** Four items were developed to measure an individual's experiences towards power in the family. The range of the scale varied from 4 to 16. The alpha score of the scale is .64. High score denotes that people experience low powerlessness in the family.

Loss of Respect **:** Six items were developed to measure an individual's experiences towards the loss of respect in the family. The range of the scale varied from 6 to 24. The alpha score of the scale is .89. High score denotes that people experience a loss of respect in the family.

Perceived Burden **:** Six items were developed to measure an individual's experiences towards the perceived burden in the family. The range of the scale varied from 6 to 24. The alpha score of the scale is .72. High score denotes that people experience family members perceived as a burden.

Coping **:** coping was measured in terms behaviour manifestation in conflicting situations i.e. Problem-focused coping, emotional-focused coping, and reactionary behaviour.

Problem-focused Coping **:** Four items were developed to measure problem-focused coping strategies to minimize conflict. The range of the scale varied from 4 to 16. The alpha score of the scale is .78. High score denotes that people use more problem-focused coping strategies.

Emotional-focused Coping **:** Four items were developed to measure the emotionally focused coping strategies to minimize conflict. The range of the scale varied from 4 to 16 and the alpha value of the scale is .66. High score denotes that people use more emotionally focused coping strategies.

Reactionary Behaviour **:** Five items were developed to measure the reactionary coping strategies to minimize conflict. The range of the scale varied from 5 to 20. The alpha score of the scale is .84. High score denotes that people use more reactionary behaviour coping strategies.

Affectional Process **:** Eight items were developed to measure how an individual feels affectionate with the next generation. The range of the scale varied from 8 to 32. The alpha score of the scale is .59. High score denotes that people feel more affection for the next generation.

Associational Process **:** Six items were developed to measure how individuals feel an association with the next generation. The range of the scale varied from 6 to 24. The alpha score of the scale is .72. High score denotes that people feel more association with the next generation.

Solidarity **:** Four items were developed to measure how individuals feel solidarity in his/her relationship with the next generation. The range of the scale varied from 4 to 16. The alpha score of the scale is .93. High score denotes that people feel more solidarity with the next generation.

Socioeconomic Status **:** Socioeconomic status has been identified based on consumption patterns of goods, market values, and the brand names of the used products. The consumption pattern shows class variations in families across the different socio-economic types. The benchmark in urban areas was air conditions, vehicles, etc. Treasures are differentiated between the upper and middle classes where the lower class families have small televisions, radios, less consumption of natural gases, bicycles, etc. In a rural area, the upper class differs from the middle class based on vehicles, televisions, computers, and generators/invertors (Verma, 2009,Verma, and Satyanarayana 2012).

Procedures

The investigators approached 400 respondents at their respective homes where they are staying with their family members and a rapport was developed. The possibility was explored for participation in the study and they explained the purpose of the research and asked to cooperate in the study. After understanding the purpose of the research, subjects agreed to participate in the study. Doubts and inquiries by the respondents were clarified. Out of 400, only 360 participants completed the survey. Thus the final analysis was carried out on 360 participants.

Results

A preliminary examination of the data shows that solidarity is significantly negatively correlated with all the consensual variables except security vs. risk-taking, consumption vs. saving, favoritism, and respect pattern, which remained insignificant, and; however, also migration showed a significant positive association with solidarity.

Functional support showed a positive correlation with solidarity. All the normative variables significantly predicted solidarity, except familial responsibility which remained insignificant. Results also demonstrate the negative significant correlation of all the negative subjective experiences with solidarity. Out of the coping variables, emotional-focused coping and problem-focused coping significantly

Table 1

Mean, SD, and inter-dimensional correlation of Consensual Process, Functional Process, Normative Process, subjective experience, coping, emotional experience, and IGR-related variables. (N=360)

		Mean	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	Individualism and Collectivism	11.1741	1	.823**	.577**	.639**	.489**	.176**	-.352**	-.773**	-.736**	-.291**	-.739**	-.559**	.790**	-.786**	.884**	.767**	-.441**	-.328**	.649**	-.558**	-.379**	-.373**
2	Traditional vs. Older Values	11.4406		1	.464**	.527**	.426**	.194**	-.344**	-.674**	-.603**	-.232**	-.592**	-.465**	.669**	-.661**	.686**	.674**	-.431**	-.344**	.487**	-.460**	-.318**	-.284**
3	Life style	26.0376			1	.408**	.391**	.177**	-.188**	-.448**	-.545**	-.104*	-.532**	-.362**	.502**	-.456**	.442**	.497**	-.442**	-.229**	.487**	-.569**	-.443**	-.513**
4	Household work	3.8592				1	.273**	.193**	-.301**	-.555**	-.363**	-.104*	-.401**	-.343**	.528**	-.512**	.493**	.448**	-.373**	-.201**	.399**	-.333**	-.314**	-.296**
5	Occupational preferences	9.9633					1	.379**	-.110*	-.462**	-.346**	-.161**	-.434**	-.308**	.432**	-.300**	.442**	.448**	-.327**	-.139**	.334**	-.321**	-.180**	-.179**
6	Security Vs. Risk taking behaviour	5.1342						1	-.150**	-.208**	-.056	.021	-.159**	-.213**	.111*	-.053	.102	.089	-.138**	-.108*	.066	-.046	.073	.016
7	Respect Pattern	2.5250							1	.296**	.142**	-.098	.102	.237**	-.248**	.313**	-.183**	-.225**	.195**	.221**	-.171**	.137**	.025	.043
8	Functional support	14.2273								1	.349**	.167**	.421**	.583**	-.642**	.630**	-.618**	-.483**	.409**	.318**	-.465**	.403**	.348**	.293**
9	Familial role	11.4444									1	.345**	.760**	.337**	-.595**	.615**	-.625**	-.797**	.350**	.185**	-.621**	.615**	.430**	.453**
10	Familial Responsibility	21.6498										1	.431**	.088	-.309**	.119*	-.266**	-.393**	.099	.133*	-.243**	.173**	.160**	-.014
11	Familial Norms	10.2501											1	.326**	-.611**	.547**	-.706**	-.709**	.429**	.283**	-.553**	.569**	.456**	.428**
12	Familial Obligations	12.0606												1	-.432**	.515**	-.467**	-.382**	.323**	.315**	-.364**	.273**	.218**	.192**
13	Loss of Authority	10.0031													1	-.637**	.668**	.609**	-.564**	-.417**	.735**	-.574**	-.510**	-.423**
14	Powerlessness	11.6623														1	-.683**	-.585**	.303**	.253*	-.531**	.415**	.391**	.343**
15	Loss of Respect	10.6290															1	.631**	-.315**	-.238**	.574**	-.446**	-.313**	-.335**
16	Burden	8.7574																1	-.359**	-.250**	.543**	-.514**	-.358**	-.317**
17	Problem focused coping	13.8217																	1	.520**	-.304**	.614**	.601**	.546**
18	Emotional focused coping	9.1671																		1	-.097	.279**	.312**	.198**
19	Reactionary Behaviour	10.2493																			1	-.547**	-.516**	-.478**
20	Affection	11.9728																				1	.667**	.751**
21	Association	22.1914																					1	.774**
22	Solidarity	16.0127																						1

correlated positively with solidarity. However, reactionary behaviour correlated negatively. Finally, affection and association demonstrated a strong positive correlation with solidarity.

Table 2

Predictors of Intergenerational Solidarity

Variables	Model 1		Model2		Model3		Model4		Model5	
	β	t	β	t	β	t	β	t	β	t
Location	0.27	5.78***	0.133	2.539*	0.115	2.255*	0.085	1.83	-0.001	-0.032
Gender	0.09	1.87	0.061	1.403	0.05	1.158	0.026	0.679	-0.008	-0.272
Middle against lower class	0.33	6.077***	0.061	0.737	0.065	0.79	0.026	0.352	-0.027	-0.477
Higher Against lower class	0.35	6.37***	0.059	0.543	0.021	0.205	0.026	0.274	-0.018	-0.253
Individualism and Collectivism			0.5	3.067**	0.939	4.255***	0.75	3.761***	0.325	2.083**
Traditional vs. Older Values			0.051	0.681	0.032	0.441	0.06	0.896	0.038	0.752
Life style			-0.305	-5.538***	-0.302	-5.577***	-0.224	-4.522***	-0.117	-3.076**
Household work			-0.125	-2.197*	-0.148	-2.617**	-0.088	-1.718	-0.063	-1.601
Occupational preferences			0.062	1.172	0.069	1.312	0.09	1.884	0.05	1.389
Security Vs. Risk taking behaviour			0.111	2.372*	0.091	1.968*	0.068	1.63	-0.012	-0.385
Respect Pattern			-0.04	-0.826	-0.001	-0.023	-0.033	-0.739	-0.006	-0.178
Functional support			0.315	3.719***	0.349	4.085***	0.267	3.447**	0.066	1.104
Familial role			0.34	4.139***	0.457	5.008***	0.341	4.027***	0.132	2.014*
Familial Responsibility			-0.22	-4.405***	-0.216	-4.237***	-0.164	-3.546***	-0.157	-4.499***
Familial Norms			0.309	4.00***	0.272	3.569***	0.142	2.015*	0.011	0.195
Familial Obligations			-0.039	-0.728	-0.037	-0.705	-0.094	-1.969*	-0.02	-0.546
Loss of Authority					-0.285	-4.189**	0.111	1.363	0.08	1.301
Total Powerlessness					0.005	0.063	0.081	1.26	-0.014	-0.279
Total Loss of Respect					-0.244	-2.312*	-0.284	-2.976**	-0.248	-3.422**
Burden					0.137	1.66	0.082	1.099	0.049	0.874
Problem focused coping							0.438	8.41***	0.061	1.332
Emotional focused coping							-0.011	-0.226	-0.036	-1.008
Reactionary Behaviour							-0.297	-4.682***	-0.056	-1.102
Affection									0.413	8.743***
Association									0.457	9.751***
	R2= .20		R2=.42		R2=.46		R2=.57		R2=.76	
	ΔR^2	.20	ΔR^2	.22	ΔR^2	.04	ΔR^2	.11	ΔR^2	.19
	F	22.14***	F	14.42***	F	14.52***	F	19.29***	F	41.49***

*>.05**>.01***>.001

Model 1 : Demographic variable: Location, Gender, and Class; **Model 2** : Consensual Process and dimensions, Functional Process, Normative Process; **Model 3** : Negative subjective experiences; **Model 4** : Coping Strategies; **Model 5** : Emotional experiences.

Table 3. shows the predictors of intergenerational solidarity. R^2 shows that the prediction of solidarity was 83 per cent . In model 1,

the demographic variables were introduced and the prediction was 20per cent, and gender remained an insignificant predictor. However, location (B = .27, t = 5.8) and middle against lower class (β =.33, t = 6.07) and higher against lower class (β =.35, t = 6.36) significantly predicted solidarity. In model 2, the prediction was increased by 39per cent and the total prediction was 59 per cent. Out of the consensual process and dimensions, Individualism vs. collectivism (β =.40, t = 2.85) significantly predicted solidarity, consumption vs. saving (β =.14, t = 3.37) also predicted solidarity apart from the normative processes of familial responsibility (negative) (β =.12, t = –2.78) and familial norms (β =.041, t = 3.89).

In model 3, the prediction was increased by 3per cent, and the total prediction was 62per cent. Out of the consensual variables, Individualism vs. collectivism (β =.73, t = 3.73) remained a significant predictor of solidarity along with lifestyle (β = –.11, t = –2.05) and consumption vs. saving (β =.14, t = 3.19). In this model, functional support (β =.26, t = 3.31) also significantly predicted solidarity. Out of the normative variables, familial responsibility (β = –.14, t = –3.14) negatively predicted solidarity along with familial norms (β =.25, t = 3.80). Loss of authority (β = –.28, t = –4.21) negatively predicted solidarity and all the other significant predictors of negative subjective experience failed to predict solidarity. In model 4, the prediction was increased by 8per cent and the total prediction was 70per cent. When coping was introduced, all the consensus process dimensions fell out of significance, although functional support (β =.19, t = 2.69) remained a strong predictor along with the negative subjective experience of loss of respect (β = –.23, t = –2.73), loss of authority fell out of significance. Out of the coping variables, problem-focused coping (β = .41, t = 9.27) positively predicted solidarity, and reactionary behaviour (β = –.15, t = –2.62) negatively predicted solidarity. Emotional-focused coping remained insignificant. In model 5, the prediction was increased by 13per cent and the total prediction was 83per cent. When affection and association were introduced, all the consensual variables remained insignificant apart from the household

skill (β = .083, t = 2.65). Functional support fell out of significance. Out of the normative variables, familial responsibility (β = –.12, t = –3.78) negatively predicted solidarity. Out of the negative subjective experience indicators loss of respect (β = –.24, t = –3.71) negatively predicted solidarity, and loss of autonomy (β = .085, t = 3.24) positively predicted solidarity. Out of the coping variables, problem-focused coping (β = .041, t = 2.85) positively predicted solidarity. Finally, affection (β = .39, t = 9.17) and association (β = .36, t = 8.32) strongly predicted solidarity.

Discussion

The Indian family emphasizes social bonds, facilitates group goals, and encourages family solidarity by encouraging sharing, cooperation, and interdependence. Any behaviour that is a threat to familial unity is discouraged (Medora, 2007). Indian society, however, is changing very rapidly and the role and status of older adults are intertwined with values, economics (reducing job opportunities and increasing retirement of the elderly), politics of society, and expectation and fulfillment within the generations. Besides, due to limited economic resources, the older generation often feels both an economic and psychological disability. Moreover, financially dependent elderly experience problems in interpersonal relationships, emotional insecurity, and loss of power leading to low quality of life (Batra, 2004). All these characteristic factors of the rapidly changing social world pose a threat to intergenerational solidarity. Therefore, an attempt was made to examine the effects of elderly perception of youth behaviour and subjective experience on intergenerational solidarity.

The results indicated a significant correlation of solidarity with consensual processes, functional support, and normative processes. This pattern of results is supported by previous studies which suggest that in the Indian context, solidarity is seen as an outcome of shared values, beliefs, norms, and cultural traditions. The four major dimensions, such as associational solidarity, consensual solidarity, functional solidarity, and normative solidarity, have been found vital in promoting solidarity between generations (Chadha & Malik, 2004).

All the coping mechanisms, dimensions of the subjective negative experience, and the emotional experiences of affection and association correlated significantly with solidarity. This result has been supported by the studies of Chaddha & Malik (2004) who suggest that non-fulfillment of complementary expectations doesn't directly influence intergenerational solidarity but affects the solidarity experienced between generations through the different mechanisms that are employed to cope with the stress and strain often resulting in such scenarios. Moreover, the subjective negative experiences would lead to stress and strain in intergenerational relations that are managed through a problem-focused coping approach to reduce strain (O'Brien, *et.al.*; 1995; Skinner *et al*; 2003). Such a coping mechanism influences the affectual process positively and strengthens the associational process which functions in conjunction to maintain solidarity.

The regression output indicates that 20 per cent of solidarity was predicted by the demographic variables, except for gender which remained insignificant. In line with this, previous studies also found that intergenerational support is less common in urban areas than in rural locations. The intergenerational gap was more pronounced in urban families between older and younger generations than in rural families (Martin, 1990; Mishra & Tiwari,1980, Bhingradiya & Kamla,1997). When the consensual processes and normative processes were introduced in model 2, the prediction increased by 39 per cent. Significant predictors were individualism vs. collectivism, and consumption vs. saving, apart from the normative processes of familial responsibility and familial norms. Thus, participants perceived more differences in individualism and collectivism dimensions and minor differences in other dimensions of consumption vs. saving. The members of generations also perceived lower levels of differences in the normative processes of familial norms and responsibility. Such results suggest that the younger generation and older generation differ in their views concerning the values and attitudes related to individualism vs. collectivism, and also in normative processes of familial roles and responsibilities. In model 3, the negative subjective experience

dimensions were introduced and the prediction was increased by 3 per cent. The consensual variables of individualism vs. collectivism, and lifestyle emerged as significant predictors along with the normative process dimensions of familial responsibility and familial norms and the negative subjective experience of loss of authority.

In model 4, coping was introduced and prediction increased by 8 per cent. When coping was introduced, all the consensual process variables fell out of significance although functional support remained a strong predictor along with the negative subjective experience of loss of respect. However, the loss of authority fell out of significance. Out of the coping variables, problem-focused coping and reactionary behaviour significantly predicted solidarity. These results can be explained by the fact that although there exist differences in values and attitudes within intergenerational relationships, these differences are manifested via the coping mechanisms adopted to minimise such gaps and foster solidarity among the generations (Verma, 2009; Verma, and Satyanarayana, 2018). Moreover, Chang (2001) considers problem-solving as an active engagement in analyzing and solving a problem that seeks social and emotional support from others. This results in the subjective experience of respect and authority and thus has an impact on intergenerational solidarity. Reactionary behaviour in terms of abusing and yelling at each other undermines intergenerational solidarity by making the intergenerational gap more pronounced by resulting in the negative subjective experience of loss of respect. However, functional support has emerged as an independent determinant of intergenerational solidarity that has an implication irrespective of the coping mechanism used.

Based on Exchange theory and studies show the same implication and reciprocity norms (Merz, 2005). In model 5, the emotional process dimensions of affection and association were introduced and the prediction increased by 13 percent. All the consensual variables remained insignificant apart from household skills. The functional support fell out of significance and the normative

variable of familial responsibility negatively predicted solidarity. Both losses of respect and negatively and positively predicted solidarity along with the coping variables of problem-focused coping. Finally, the results in model 5 demonstrated that affection and association strongly predicted solidarity.

This is because when generations perceive differences in consensual process dimensions, these differences are expressed through the coping mechanisms adopted to deal with such differences, which in turn can lead to either negative or positive subjective experiences. The subjective experience (whether positive or negative) determines the degree of affection and association felt by the members of different generations. The degree of affection and association perceived by the members of different generations has emerged as one of the most important dimensions through which solidarity is maintained. However, in such a scenario, the perception of familiar responsibility undermines solidarity and the subjective experience of loss of authority and loss of respect can affect solidarity without influencing the affection and association.

Thus, they have better subjective experiences of having authority and respect. Similarly, on certain dimensions of the consensual process, differences and similarities between the functional process and the normative process, the individual didn't have negative subjective experience because they mostly used problem-focused coping strategies and showed minimum reactionary behaviour in terms of abusing or shouting on each other and maintaining affection, association and in experiencing intergenerational solidarity relationships.

Conclusion

Findings reveal that the members of different generations perceive differences in consensual process dimensions and this is expressed through the coping mechanisms employed, which in turn can lead to either negative or positive subjective experiences. The subjective experience (whether positive or negative) determines the degree of affection and association felt by the members of different generations.

Thus, the degree of affection and association perceived by the members of different generations proved as an important dimension through which solidarity is developed and maintained. However, the perception of familiar responsibility undermines solidarity, and the subjective experience of loss of authority and loss of respect can affect solidarity without influencing affection and association.

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Social Supports and Social Adjustment among Older Widows Living in Pay and Stay Homes

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ABSTRACT

The objective of this study was to examine the impact of social support on the social adjustment of 80 older widows, in the age group of 65-75 years, cognitively intact and communicative, and living in pay-and-stay homes in Andhra Pradesh. The Social support and social adjustment of individuals were assessed by using social support inventory (Ramamurti & Jamuna, 1991), and an adjustment inventory(Ramamurthi,1969), for older persons. The findings of the study suggest the importance of maximizing social networks to facilitate social adjustment in older widows to make their living experience in senior care homes meaningful and satisfying.

Keywords: SocialSupports,SocialAdjustment,OlderWidows,Pay and stay Homes

One of the issues that most elderly people experience is limited support from family or relatives or significant others (Sharghi, *et al.*, 2018). Elderly individuals need contact with others to ask for help when they need it as a means to satisfy their emotional needs (Theurer, *et al.*, 2015). The transformation of social structures in recent decades

and the imbalance of the traditional joint family system, the care provider in the nuclear family have led to an increase in the number of old age homes and the culture of delivery of elderly people to these homes (Roberto, and Blieszner, 2015). However, some studies point to the benefits of living in care homes such as relationships with peers, access to nursing care and health facilities, lack of loneliness, and depression. When an elderly person is in a care home, he/she is likely to be physically, psychologically, emotionally, and economically dependent (Atadokhtw, *et al.*, 2015, Theurer, *et al.*, 2015) on non-family networks. Dependency can reduce self-esteem and increase depression in a senior care home. In one of the studies Unsar, *et al.*, (2016) reported higher levels of social support and Activities of Daily Living (ADL) in every resident of senior care homes.

There is enough evidence that many elderly people prefer attending and participating in activities of daycare centers rather than staying in care homes. Daily gatherings can increase the level of physical, mental, and social health of the elderly by enriching their leisure time through implementing various programs (Fields, 2016). Social support acts as a protective shield against mental health issues. It is associated with the reduction of depression, anxiety, and other psychological problems (Patil, *et al.*, 2015). It is still unclear whether older widows living in senior care homes have personal adjustment and perceive their social supports and to what extent they adjust to their social network. Generally, personal adjustment is in demand in old age due to diminishing health, limited capacity, poor mental ability, and increased economic dependency (Shukla, and Kiron, 2013).

Widowhood is an inevitable life event. It is a catastrophic event at any stage of life for the surviving partner with serious repercussions on their physical, economic, and emotional well-being, particularly in the first year of the loss or for a longer term in some cases (Wilcox, *et al.*, 2003). However, the emotional response to spousal loss is hypothesized to be different depending on various socio-demographic characteristics such as age, gender, onset of widowhood, living arrangement, functional ability to perform activities, health status, other

factors such as community involvement and economic conditions of the survivor (Moon, *et al.*, 2011, Agrawal, and Keshri, 2014)

One of the ingradients of successful ageing is the perception of Social support. It is shaped by the social networks within an area where the individual is located, and synchrony with those significant others at times of need. Keeping the above in view, the present study was planned with the following objectives:

- To examine the socio-demographic profiles of older widows living in the pay and stay homes.
- To study the social supports and social adjustment of older widows living in pay-and-stay homes.

Method

Sample

From a sample of 240 older widows in Pay-and - stay senior care homes, located across districts of the United Andhra Pradesh, only a sample of 80 residents from these homes, ages varying from 65 to 75 years, belonging to rural and urban areas, were selected by systematic random sampling method keeping in mind the accepted inclusion and exclusion criteria.

The subjects were explained about the nature, purpose, and voluntariness of their involvement, and signed informed consent was obtained. A trial interview was conducted to assess the subjects' capacity to communicate. The subjects without chronic illness and those cognitively intact were included in the study. The subjects in the study were individually administered the tests.

Tools used **:** The participants were administered Personal Data Form (PDF) to seek information on relevant socio-demographic characteristics, and Adjustment Inventory (Ramamurthi, (1969), to assess adjustment in older widows. A short form of perception of the Social Supports Inventory was used to measure social support in older widows.

And tools we again field tested on a sample of 5 widows to examine relevance. The test-retest reliability was 0.91. (after 15 days).

Results and Discussion

The analyses used a variety of descriptive techniques to describe the patterns of social participation following the loss of a spouse. Some analyses compared widows with controls to differentiate the effects of widowhood from aging, whereas additional analyses compared subgroups within the widowed sample to assess the differential responses to widowhood.

Table 1

Sample Characteristics of Older Widows of Pay & Stay Homes (N=80)

S.No.	Sub-groups	N	Percentage (%)
1.	Age		
	65-70	45	56.3
	71-75	35	43.7
2.	**Education**		
	No education	23	28.8
	Education	57	71.2
3.	**Type of Family**		
	Nuclear	29	36.3
	Joint	51	63.7
5.	**Locality**		
	Rural	35	43.8
	Urban	45	56.2
6.	**Source of Income**		
	Pension	50	62.5
	Property	20	25.0
	Others	10	12.5
7.	**Economic Status**		
	Below Middle class	21	26.2
	Middle Class	33	41.3
	Upper middle class	26	32.5
8.	**No. of members in the family**		
	2-4	48	60.0
	4-8	32	40.0

The sample characteristics of older widows in pay & stay homes were compiled to understand their details (Table -1). Age distribution of older widows shows that 56.3 per cent were in the 65-70 years and 43.7 per cent were in the 71-75 years age group. The educational status of older widows shows that about 28.8 per cent had no education, and 71.2 per cent were educated. All belong to the Hindu religion only. Distribution of older widows across family type (before their relocation) indicates that 36.3 per cent were with the nuclear family and 63.7 per cent were in a joint family setting. Older widows about 43.8 per cent were basically from semi-urban areas and 56.2 per cent were from urban areas. The source of income distribution shows that the majority of them (62.5%) receive pensions, 25 per cent have a property and only 12.5 per cent have other help. The details on economic status show that 26.2 per cent were from below the middle, 41.3 per cent were from the middle income group and 32.5 per cent were from the upper middle class. The number of children in the family shows that 60 per cent had 2 to 4 children, 40 per cent had 4 to 8 children.

Table 2

Level of Social Supports in Different Socio-Demographic Subgroups

S.No.	Sub-groups	N	Mean (SD)	t value
1.	**Age**			
	65-70	48	37.24(8.38)	2.637**
	71-75	32	41.51(5.22)	
2.	**Education**			
	No education	49	43.35(8.20)	3.634**
	Education	31	37.02(6.54)	
3.	**Economic Status**			
	Below Middle class	21	43.43(7.09)	2.659**
	Middle Class	33	37.09(9.32)	2.000*
	Upper middle class	26	41.12(4.78)	1.331@

4.	**Locality**			
	Rural	35	36.57(8.45)	1.991*
	Urban	45	41.13(6.92)	
5.	**Type of Family**			
	Nuclear	29	34.59(7.05)	2.635**
	Joint	51	39.39(8.24)	
****P<0.01; * P<0.05; @ Not Significant**				

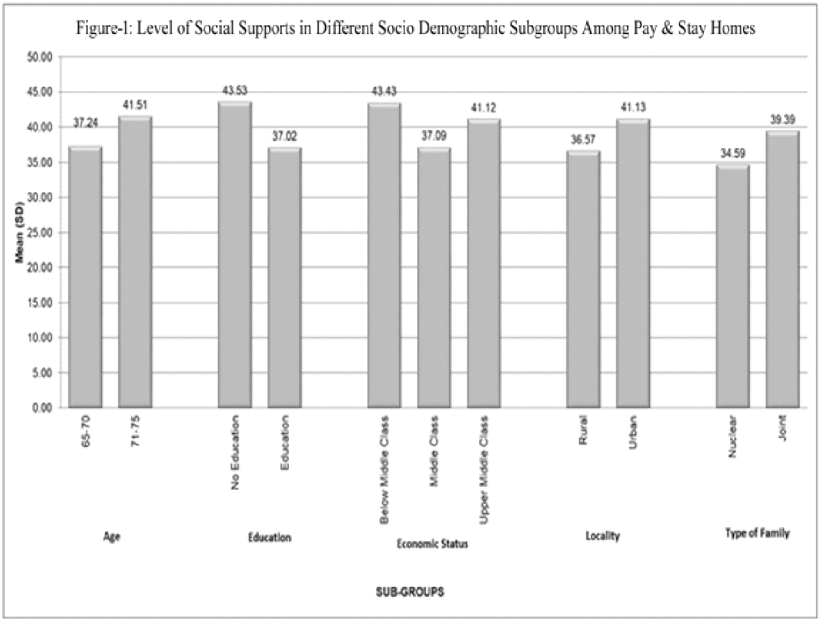


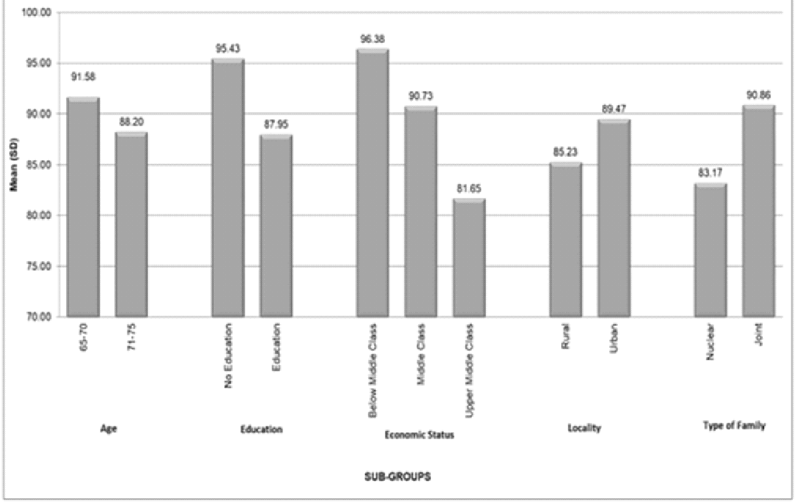
Table 3

Levels of Adjustment in Different Socio-Demographic Subgroups

S.No.	Sub-groups	N	Mean (SD)	t value
1.	**Age**			
	65-70	48	91.58(7.92)	1.990*
	71-75	32	88.20(6.98)	
2.	**Education**			
	No education	23	95.43(4.93)	4.384**
	Education	57	87.95(7.55)	

3.	**Economic Status**			
	Below Middle class Middle Class Upper Middle Class	21 33 26	96.38(3.91) 90.73(9.13) 81.65(6.41)	2.677** 4.296** 9.209**
4.	**Locality**			
	Rural Urban	52 28	85.23(10.34) 89.47(8.68)	1.991*
5.	**Type of Family**			
	Nuclear Joint	29 51	83.17(10.61) 90.86(7.76)	3.717**
	****P<0.01; * P<0.05; @ Not Significant**			

Figure-2: Level of Social Adjustment in Different Socio Demographic Subgroups Among Pay & Stay Homes



A cursory glance at results on social supports (Table 2) indicates that the mean differences are statistically significant in terms of their age, education levels, economic status, and type of family subgroups. Older widows in the 65–70 years age group, with education, except in upper-middle-class widows from joint families reported higher social support than their other counterparts in the sub-group (Figure 2).

Social adjustment in older widows living in senior care homes of different socio-demographic subgroups (Table 3) shows that there

are subgroup variations in social adjustment. Results on Social adjustment in subgroups of age, education, economic status, and type of family differed significantly (Table 3). Older widows in 71-75 years, with no education, from the lower middle class, from a rural background, and from nuclear family reported higher levels of social adjustment.

The present study sought to understand that decreased support from the significant would aggravate loneliness after partner loss. In line with the theory of loneliness (Weiss, 1975), as emotional and social loneliness in widows. Results showed that older adults were affected much more by partner loss regarding their emotional loneliness than their social loneliness. As stated emotional loneliness in widows increased social loneliness after partner loss, and remained higher in the long run. The deficit model of partner loss and the conservation of resource model suggests that increases in support may protect older adults from increases in loneliness. Although support increased immediately after partner loss, levels of support were not negatively related to emotional loneliness. In the final observation after partner loss, support was negatively associated with social loneliness. Thus, increased support protected older adults from social, but not from emotional loneliness. Thus the onset of widowhood and length of widowhood is detrimental to social adjustment.

Van Baarsen, *et al.*, (2001), and in line with Weiss's theory (1975), it was noticed that the loss of a partner affected emotional loneliness more than social loneliness. When older adults lose their partner, their emotional loneliness increases sharply; but their social loneliness increases only slightly. In the long run, emotional loneliness remains high. With their partner loss, older adults lose a major source of attachment of security, but not necessarily social integration. In sum, the loss of a partner is associated more with emotional loneliness than with social loneliness. Similar to the outcome of the present study marital status and its link with mental health has been explored previously, concluding that unmarried and widowed individuals show

higher rates of loneliness, lower life satisfaction, physical ailments, and higher mortality with advancing age (Zebhauser, *et al.*, 2014).

Further, an in-depth analysis of the case study of older widows in senior care homes and the social adjustment (Golden, *et al.*, 2009) determined that social networks independently affect mood and well-being in the elderly, and the risk of depression increases with the severity of loneliness. Another study found that older adults who had poorer social networks had also a worse quality of life (Kahn, *et al.*, 2003; Isabelli, C., 2006).) found that relationships between perceived social support and psychological well-being (depression, loneliness, and life satisfaction) were quite strong. Garousi, *et al.*, (2013) emphasized that supportive family behaviors are important sources of social support and could be in negative relation to depression and anxiety of diabetic patients.

In conclusion, this study shows how important changes in the social resources of older widows are for their social adjustment. The poor social adjustment and negative life expectancy of widows benefit from the broad range of social resources available in their networks of personal relationships and social adjustment in the community rather than in pay-and-stay homes. Moreover, widows experience additional benefits from their social resources when their instrumental support increases after a partner loss. More generally, it suggests that older widows derive benefits from their social resources, as a substitute for their partner loss. This would suggest that policy initiatives to enhance social resources in care homes are to be planned.

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Intergenerational Living Arrangements of Older Adults in India: An Exploration of LASI Data*

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ABSTRACT

This study aims to identify the patterns of living arrangements among older Indian adults taking into account socioeconomic and demographic factors across regions. The data was taken from the Longitudinal Ageing Survey of India (LASI wave-1)-2017-18, a nationally representative data set. Descriptive and logistic regression analysis was used to examine the variations in the living arrangement of older adults for different indicators considered. The experienced household size was 6.95, which was more significant than the national average (5.69) of all individuals in India. Male older adults lived alone and were more likely to head a household and live with a spouse than female older adults. This study contributes comprehensive information on the pattern of living arrangements of older adults. So many programmes and policies are being formulated and implemented by the government

for the welfare of older adults which must be structured to meet the requirements at the root level.

Keywords: Coresidence, Experience household size, Living arrangement, Older adults.

Urbanization and age affect the traditional family system. People are attracted by the west's urbanization and personal liberty. Nuclear households are replacing combined families in India (Rajan & Kumar, 2003). Older adults usually live in a family where they can enjoy their dignity as head of the household, a place where people can live with their descendants and keep their relationship with family and adjust to the environment inside certain boundaries. (Rajan, *et al.*, 1995). In India, children and parents can care for each other in a joint family arrangement (Jadhav, *et al.*, 2013). Household size and composition over time and in societies affect older people's well-being. Since socioeconomic advancement inversely affects their living arrangements, older adults with children and spouses are familiar with developing notions. (Asis, *et.al.*, 1995; Bongaarts, and Zimmer, 2002). Also, family support's normative, functional, and structural aspects as a form of social capital (Bourdieu, 1985) may help build solidarity between generations. Parent-child interactions are not just about love, sharing resources, and giving emotional support; they are also about familism (Bengtson, and Roberts, 1991). In other cases, when intergenerational relationships are strong, co-residence with adult children has improved older adults' well-being. In rural Taiwan, older adults who lived alone were more stressed than those who lived in other ways (Hermalin, and Yang, 2004). Co-residence reduces the costs of living. Family meals save money. In developing countries with high or rising housing costs, this is important. Thus, "economies of scale" and "public goods" enhance coresidence (Lam, 1983). Social assistance, health, and gender and family problems in South Asian literature highlight marital status, especially widowhood. Widowhood influences social networks, especially in older adults. Married persons in modern western countries had greater health and lower mortality than the never-married, widowed, or divorced,

even though less healthy people are less likely to marry or stay married (Lillard, and Waite,1995; Waldron, *et. al.*, 1996). Many aging studies in developing countries begin with older people's living arrangements to better understand their survival and effectiveness. (Martin, and Kinsella, 1994).

Therefore, this study fills the gap in the current study to explore the patterns of living arrangements among older Indian adults by considering demographic and socioeconomic aspects across regions and extensively investigating family size and headship. Many earlier studies on the living patterns of older adults have been done, it was discovered that the living conditions of older adults in the joint family were not lamentable. Still, now due to the nuclearisation of the family, this has become a challenge for older adults. This study deals with how household sizes were shrinking, what has changed in headship, and how the current living arrangement differs from earlier. Figure1 represents the conceptual framework for the present study.

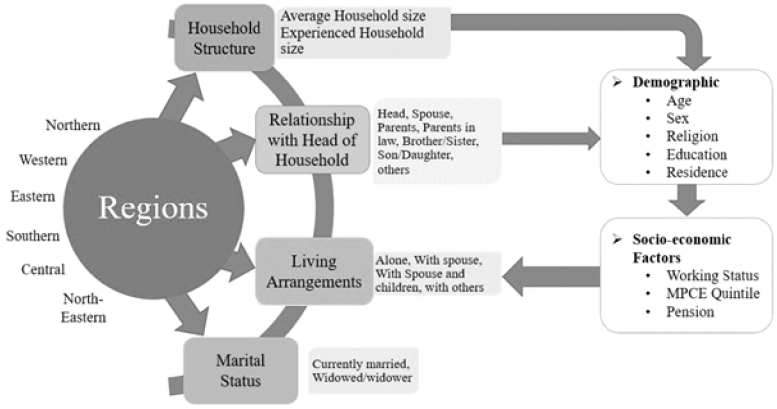

Figure 1 : Conceptual framework

Methodology

Data Source

The data for this study was taken from India's Longitudinal Ageing Study of India (LASI wave 1, 2017-18). The LASI wave 1 covered 72,250 people age 45 and older and their spouses from 35 states and

union territories (UTs) of India, including 31,464(15098 males and 16366 females) people age 60 and older (excluding Sikkim) (LASI India Report-2020, Executive summary).

Selection of the Study Sample

This study was based on older adults who were 60 and above. In this study, 31464 samples of older adults have been taken that involved the older adults' living arrangements. The household head and household size analysis includes a sample of 35294 older adults. In the present study, all Indian states and union territories (36), excluding (Sikkim) were classified into six regions : **Northern, Western, Eastern, Southern, Central, and North-Eastern regions.**

Statistical Analysis

In this study analysis of the family structure of the older adults, states were the unit of analysis, and results were summarized based on state averages for different indicators separately by considering the older adult's sex and regions. Regional averages were presented unweighted with standard deviations in parenthesis, and analysis of variance is used to check the significance level of regional differences. The logistic regression analysis included inter-generational living arrangement indicators hypothesized to be affected by older persons' demographic and socioeconomic characteristics across regions. The adjusted odds ratio had a 95 per cent CI, and P-values under 0.05 were statistically significant. The statistical analysis was performed using SPSS 25 version software.

Variables Used

Dependent Variables

The dependent variables for this study were older adults who live alone, with a spouse, and with children. Household size was 0 for less than five family members and 1 for more than five and household head (the person himself/herself was reported as the head).

Older adults' household structure, Headship, and Size were measured accordingly : two household and household structure

approaches were investigated : (1) average household size and (2) experienced household size. The average household size was defined by the mean number of members in each family in an individual population, whereas an experienced household size was defined as the number of people living in each family (Burch, 1967; King, andPreston, 1990). The average household size was calculated using the following method, considering that 50 per cent of the population's dwellings have one member, and the rest have nine. In this consideration, the typical household size is five. In this condition, the household is the unit of analysis. If each person is asked how many people live in their house, 90 per cent say nine, while the remaining 10 per cent say they live alone; here the individual is the unit of analysis. Thus, as a result, people's experienced household size is 8.2: (0.9 x 9) + (0.1 x 1) (Bongaarts, and Zimmer,2002).

Independent Variables

Socio-Demographic Variables

Socio-demographic variables were gender (male and female); residence (rural and urban); schooling (ever attended school and not attended school); wealth Index (poorest, poorer, middle, richer, and richest); religion (Hindu, Muslim, Christian, and others) pension (neither currently receiving nor expected to receive, currently receiving, and expected to receive in the future).

Results and Discussions

Average and Experienced Household Size

Table 1 shows India's average and experienced household size and the percentage of older people living alone by region and gender. The average household size combining all the regions of India was found to be 5.69, although the experienced household size was 6.95. The regional differences in household size were not statistically significant. As the present study focuses on older adults, the experienced household size for those households having older adults (60+) in India was 6.56. The region-wise data for the older adults shows that the percentage was higher in the northern region (7.09)

and smaller in the southern region (5.94) than the national average. According to the current study, the percentage of older adults living alone in India was 5.2. The number of older adults who were living alone was found to be maximum in the southern region (8.30%) and minimum in the northern region (3.00 %). Although, the difference in the percentage of the elderly living alone in the different areas was not found to be statistically significant.

Older Adult's relationship with the head of the household

Table 2 illustrates the older adults' relationship with the head of their household by gender and region. Most of the households were headed by males and older adults everywhere approximately 80 per cent . The majority of the older adults were themselves the head of their households, followed by the parents of their household heads. The northeastern region (89.50%) has more male-headed older households than the central region (83.50%). In the central region, 12.2 per cent of older adult males were the parents of their household head. The percentage of older individuals who were "spouses," "parent in-laws," "brothers and sisters," "sons and daughters," and "others" was lower. Older adult female-headed families were more common in the northeastern region (37.0%). Three categories are comparatively prevalent among older females: 1) head- ranging from 19.50 per cent in the Northern region to 37.80per cent in the north-eastern region; 2) spouse- ranging from 35.50per centin the southern region to 46.30per cent in the northern region, and 3) parent 18.70per cent in the north-eastern region to 30.30per cent in the eastern region. These three groups comprise over 90per cent of older adult females. Female heads have a lower headship rate (85.60% vs. 26.70%) and are more likely to be the head's spouse or parent.

The percentage of older adults living alone by gender, region, and different states of India was shown in Figure 2. The findings of this paper indicate that across the entirety of India, the lowest percentage of male older adults living alone was found in Meghalaya, Jammu Kashmir, Himachal Pradesh, Punjab, Delhi, and Rajasthan ranging from1.2 per cent -1.7 per cent respectively. In contrast, female

Table 1

Average and experienced household size and the percentage of older adults living alone by region LASI wave-1: 2017-18

Regions	Northern	Western	Eastern	Southern	Central	North-Eastern	Total	p-value
Average household Size	6.10(2.77)	5.70(2.56)	5.80(2.79)	5.10(2.59)	5.70(2.45)	5.50(2.44)	5.69(2.71)	0.299
Experienced household Size								
All Individuals	7.37(2.62)	6.92(2.54)	7.10(2.81)	6.44(2.39)	6.82(2.54)	6.59 (2.67)	6.95(2.48)	0.201
All 60+	7.09(2.89)	6.52(2.71)	6.68 (2.93)	5.94(4.33)	6.63(2.81)	6.19(2.49)	6.56(2.84)	0.106
Males 60+	7.19(2.88)	6.55(2.68)	6.75(2.89)	6.03(2.71)	6.63(2.84)	6.26(2.52)	6.64 (2.75)	0.133
Females 60+	6.98(2.81)	6.49(2.73)	6.61(2.84)	5.87(2.59)	6.63(2.88)	6.12(2.51)	6.49(2.82)	0.096
Percent who live alone								
All individuals	1.90(0.21)	2.80(0.29)	2.80(0.34)	4.90(0.54)	3.60(0.23)	3.50(0.34)	3.20(0.14)	0.061
All 60+	3.00(0.32)	4.90(0.62)	4.20(0.64)	8.30(0.79)	5.90(1.00)	5.20(0.58)	5.20(0.99)	0.091

Table 2

Percent of male and female older adults according to their relationship to head of household by region-wise LASI Wave-1:2017-18

Regions	Northern	Western	Eastern	Southern	Central	North-Eastern	Total	p-value
Male 60+								
Head	85.70(5.31)	86.60(10.56)	86.70(4.24)	86.10(4.22)	83.50(1.54)	89.50(4.59)	85.60(1.23)	0.068
Spouse	0.80(0.97)	0.80(0.99)	0.86(0.98)	2.20(0.41)	0.90(0.95)	1.90(0.39)	1.30(0.98)	0.674
Parents	10.30(0.89)	10.10(1.95)	9.20(1.09)	7.90(0.72)	12.20(0.65)	5.60(0.64)	9.50(0.73)	0.033
Parent-in-law	0.40(0.01)	0.30(0.03)	0.80(0.29)	1.40(0.09)	0.90(0.01)	0.40(0.1)	0.80(0.04)	0.263
Brother/ Sister	1.10(0.03)	0.70(0.98)	1.00(0.32)	0.80(0.14)	1.10(0.44)	1.20(0.13)	1.00(0.04)	0.665
Son / Daughter	0.50(0.14)	0.97(0.13)	0.70(0.12)	0.30(0.01)	0.80(0.29)	0.80(0.11)	1.00(0.02)	0.545
Others	1.20(0.01)	0.51(0.12)	0.80(0.13)	1.20(0.09)	0.60(0.08)	0.60(0.10)	0.90(0.04)	0.255
Female 60+								
Head	19.50(1.00)	29.30(0.99)	21.90(2.14)	33.10(2.23)	19.20(4.32)	37.80(2.04)	26.70(0.44)	0.063
Spouse	46.30(0.32)	40.20(4.68)	40.10(3.28)	35.50(2.02)	45.70(10.01)	37.20(2.24)	40.30(0.63)	0.052
Parent	28.40(2.03)	25.30(4.01)	30.30(1.14)	22.00(1.72)	29.80(0.14)	18.70(3.23)	26.20(0.49)	0.042
Parent-in-Law	2.30(0.22)	1.90(0.42)	3.80(0.34)	5.10(0.33)	2.00(0.19)	2.10(0.18)	3.10(0.17)	0.001
Brother/Sister	0.40(0.11)	0.80(0.96)	0.60(0.97)	1.50(0.04)	0.30(0.03)	0.90(0.14)	0.70(0.12)	0.027
Son / Daughter	1.00(0.12)	0.80(0.04)	1.20(0.13)	0.70(0.02)	0.90(0.01)	1.30(0.12)	0.90(0.04)	0.124
Others	2.20(0.13)	1.80(0.31)	2.10(0.32)	2.10(0.99)	2.10(0.49)	2.10(0.19)	2.10(0.04)	0.371

older adults were in Chandigarhand Jammu Kashmir. The states with the highest percentages of people living alone were Nagaland (7.0% and 18.6%) and Tamil Nadu (5.7% and 20.3%) for males and females respectively.

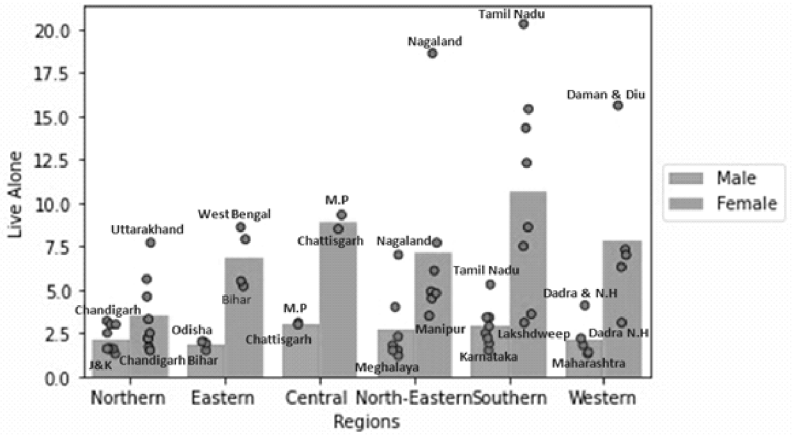

Figure 2: Percentage of male and female older adults living alone in different states of India

Figure 3 depicts the percentage of older adults living with their spouses by region, gender, and different states of India.

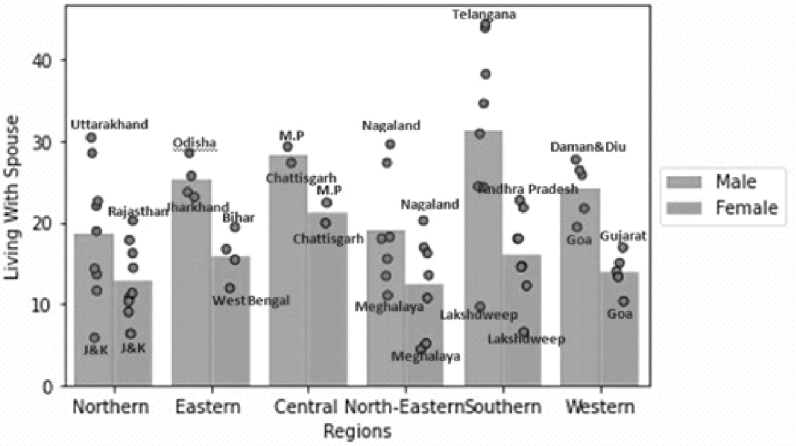

Figure 3 : Percentage of male and female elder's living with spouse in different states of India

This study revealed that Telangana (44.4%), a state in south India, had the highest percentage of older males living with a spouse. In comparison, Andhra Pradesh (22.7%) had the highest percentage of older females living with a partner. The lowest percentage for males living with their spouse was found in Jammu Kashmir (5.8 %), while for females, it was lowest in Meghalaya (4.4 %).

Regression Results of Living Arrangements of Older Adults

Table 3 displays the findings of the adjusted odds ratio at a 95per cent confidence interval from regression analysis. Results demonstrate that older females were 96per cent and 38per cent less likely to have headship and live with their spouse than males.In contrast, older female adult were 5 times and 4 times more likely to live alone and live with their children than older adult males.

There was a statistically significant positive association between headship and the northeastern region; compared to the central region, the elders of this region had a higher headship. Living with a spouse was significantly negatively associated with the north-eastern 59 per cent, western 29 per cent, and northern regions 38.9per cent were less likely to live with their spouse than in the central region. Living with children was significantly positively correlated only in the northern region; older adults belonging to this region were more likely to live with their children. Household size was significantly negatively associated with the eastern, northeastern, and southern regions; when compared to the central region, household size reduced by 22per cent, 37per cent, and 57per cent, respectively. Older adults with some schooling were less likely to live alone (42%), living with a spouse (26%) and household size (16%)than those without schooling. Headship was 1.51 times higher for elders with some schooling compared to rural, urban older adults who were 1.3, 1.2, and 1.3 times more likely to live alone, be head of the household, and co-reside with children. Living with a spouse and household size were significantly negatively correlated with urban older adults. The urban older adults were 13.6per cent and 19.4per centless likely to live with their spouse, and household size was reduced. This outcome

Table 3

Findings for specific living arrangement indicators LASI wave-1:2017-18

	Alone	Head	Living with spouse	Living with children	Household size
Variables	**AOR (95% CI)**	**AOR (95% CI)**	**AOR (95% CI)**	**AOR (95% CI)**	**AOR (95% CI)**
Socio-Economic Variables					
Gender: Male®					
Female	5.24 ***(4.21-6.52)	0.04***(0.03-0.04)	0.62***(0.55-0.70)	4.20***(3.70-4.79)	0.93(0.84-1.03)
Education: Never attended school®					
Ever attended	0.58***(0.45-0.74)	1.51***(1.34-1.71)	0.74***(0.66-0.83)	0.94(0.82-1.09)	0.84***(0.77-0.92)
Residence: Rural®					
Urban	1.29*(1.02-1.63)	1.16*(1.02-1.31)	0.86*(0.77-0.97)	1.28***(1.12-1.47)	0.81***(0.74-0.88)
Wealth Index: Poorest®					
Poorer	1.10(0.75-1.59)	0.86(0.71-1.02)	1.68***(1.41-1.99)	0.80*(0.69-0.95)	1.04(0.92-1.18)
Middle	1.41(0.99-2.03)	0.77**(0.64-0.91)	2.16***(1.82-2.55)	0.81*(0.68-0.97)	0.96(0.85-1.09)
Richer	2.55***(1.83-3.56)	0.75**(0.63-0.09)	2.63***(2.23-3.12)	0.72***(0.60-0.86)	1.03(0.90-1.17)
Richest	4.02***(2.89-5.59)	0.88(0.73-1.06)	4.18***(3.53-4.95)	0.53***(0.44-0.65)	0.92(0.81-1.05)
Pension status: Not receiving and not expecting ®					
Currently receiving	0.93(0.69-1.25)	0.76***(0.66-0.88)	0.91(0.79-1.03)	1.26**(1.07-1.50)	0.97(0.88-1.08)
Expected to receive in future	0.42*(0.20-0.87)	0.91(0.67-0.88)	0.97(0.75-1.25)	0.95(0.68-1.33)	1.07(0.86-1.33)

Religion: Hindu®						
Muslim	0.70(0.46-1.07)	0.89(0.71-1.12)	0.54*(0.45-0.65)	1.12(0.91-1.37)	1.79**(1.52-2.10)	
Christian	1.01(0.73-1.93)	0.83(0.53-1.31)	1.20(1.01-1.44)	0.94(0.76-1.16)	1.15(0.86-1.54)	
Others	0.74(0.42-1.28)	1.13(0.86-1.48)	0.61*(0.46-0.79)	1.21(0.92-1.60)	0.84(0.68-1.02)	
Regions: Central®						
Eastern	0.67(0.41-1.08)	0.95(0.74-1.21)	0.84(0.66-1.06)	1.34(0.97-1.85)	0.78**(0.66-0.93)	
N. Eastern	0.72(0.43-1.21)	1.88***(1.39-2.56)	0.41**(0.31-0.54)	1.39(0.97-1.98)	0.64***(0.51-0.79)	
Southern	0.99(0.63-1.58)	1.37*(1.08-1.75)	1.12(0.88-1.43)	1.35(0.97-1.87)	0.44***(0.37-0.52)	
Western	0.63(0.38-1.03)	1.37*(1.06-1.48)	0.71**(0.55-0.92)	1.28(1.12-1.47)	0.92(0.76-1.11)	
Northern	0.44**(0.26-0.74)	1.13(0.89-1.43)	0.61***(0.48-0.78)	1.50*(1.10-2.09)	1.07(0.91-1.28)	

demonstrates that the number of older adults living alone increases as the wealth index increases. Elders belonging to these quintiles were 1.4, 2.5, and 4 times more likely to live alone than the reference category (Poorest). Headship was significantly negatively associated with middle and richer quintiles only; these were 23per cent and 25per cent less likely to have headship than in the poorest quintile, respectively. Living conditions of older people with spouses are increasing as the wealth index rises. Older adults in the poorest, middle, richest, and richest quintiles were positively correlated. Significantly negative correlations were observed between living with children and the poorer, middle, richer, and richest quintiles. Results revealed that those older adults who are expected to get a pension in the future were 58% less likely to live alone than the reference category. Older getting pensions were 1.26 times more likely to live with children than the reference category. Household size was reduced by 24per cent for elders who do not receive and are not expected to receive any pension than elders who do not receive and not expected pension. The results showed that older belonging to Muslims and other religions were significantly negatively correlated. Muslim households were 1.79 times more likely to be significant than Hindu households, and they were 46per cent and 39per cent less likely to live with a spouse.

Discussion

This study analyses how demographics and socioeconomics affect older Indian living patterns. This study studied older households' size, head relationships, and living conditions.

In this paper, the average household size in India was 5.69. The average household size was significant for the northern region and small for the southern region. Similar findings were reported in (GDL Area Database, 2020); the average household size for older adults in India in the years 2016, 2017, 2018, and 2019 was 5.81, 5.80, 5.79, and 5.78, respectively. The family size shows how close the generations are to each other, as explained by (Rajan & Kumar, 2003). Any household with more than five individuals is a "joint family," if they explain. Joint families make up roughly 65% of Indian households.In

contrast to other regions, all older adult males and females in the South lived alone. A similar study was found (Down to earth, TOI, 2021) according to the data made available by the Census in Tamil Nadu. The primary factors contributing to the working population leaving the state are education, marriage, and business. Another study found (Nagarajan, 2014) similar results, "A quarter-million elderly Indians live alone, and roughly three-quarters are women. In Tamil Nadu, one in eleven people over 60 live alone. Tamil Nadu and Andhra Pradesh have 20 per cent of their older adults in such families. Total headship was higher in men than women. A similar study was found by (Diener, and Suh, 2023) in the situation of no decision-making power with neither headship position; women had higher odds of low life satisfaction than men. Widowhood makes women monetarily dependent on their children (Dreze, 1990). Older adult males are more likely to be married than older adult females; hence widowers are less common than widows. Other similar results were found in the study of (Jadhav, *et al.*, 2013). Older women have less education and money. They outlived their spouses due to age differences. Many older women depend on their families because government assistance is only developing. Population shifts are changing family structures. Helping older adults, especially women, is needed.

This study discovered that older adults with some education live less alone, with children, and more with spouses and household heads. According to (Bongaarts, and Zimmer; 2002), the environment affects education. Macroeconomic strength is connected to a modest retirement lifestyle. High-educated communities have increased migration and critical government-funded programs. After their children depart, they can help the older. Higher-educated older persons are healthier and earn more, enhancing self-care. Privacy can affect family structure for highly educated people. This study indicated that older women lived alone and with children more often. Similar results were found in the study (Giridhar, *et al.*, 2015). Women are single longer period than older men. They age alone or with their grown offspring. Elders must change less. Older women are 10% and men 2 per cent.

Older ladies live alone due to children moving away. 20per cent of sixty-year-old women live alone. One-third of older women living alone are miserable yet have no choice. Older women (46%), but not older males (12%), live with their children. The study found that pension beneficiaries were likelier to live with children with less headship and had smaller households than non-pensioners. Another similar study was found according to a study conducted by (Da Vanzo, and Chan. 1994). Living alone increases income in most industrialized nations. In poorer countries, filial duties are shared due to cultural norms. Older people with money, rent, government pensions and other assets live with adult children more often. In developing nations, older adults live with their children.

Strength and Limitations

The main strength of this study was the use of the recently released Longitudinal aging survey of India wave 1, 2017-18 data, which included 31464 data points from people older adults 60 and above. The focus of this study was older adults (60+), and the analysis was based on region wise. Despite this study's strength, it does not include people younger than 60. Other limitations include cross-sectional data and the inability to assess long-term behavior. For some reason, data about Sikkim state in northeastern India had been excluded; this region lacked the data necessary to produce reliable conclusions.

Conclusion

This study analyses Indian older adults' socioeconomic and demographic living patterns across regions. This study shows that household size is shrinking, affecting older individuals' living arrangements. Population shifts are altering traditional family structures. Building support structures for older adults, especially women, requires more effort. Taking steps with the government, older adults need the most emotional support they get from their family members and the surrounding environment.

*This study in based on the secondary data from LASI wave1:2017-18. Data source: available through request procedure https://www.iipsindia.ac.in/content/lasi-wave-1 .

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