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A study of common age-associated disorders; among urban elderly

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Abstract
With advancing age, there is decreased vitality and increased vulnerability to common in elderly. The present study was undertaken with the objective of examined common age-associated disorders relation to covariates such as food habit, life style, family history, nutritional status, etc. The study was randomly sample survey of 1192 urban elderly (60+) age group residing in Darbhanga (North Bihar). Results showed 1) nutritional status was found inactive with regards to physical activity showed higher prevalence of all four classes of senile dysfunction. 2) Sedentary life style seemed to be conductive for raised incidence of hypertension, diabetes, obesity, gouty arthritis. 3) Family history of obesity appeared more pronounced among females. 4) Male showed higher degree of family history in respect of diabetes followed by hypertension.

Keywords: Urban elderly, advancing age, habit, life style, family history

Introductions
Our understanding of the biology of aging and longevity has grown tremendously over the past two decades. In addition to manipulating the lifespan and the rate of aging of a number of animal species genetically, by using small molecules or by acting on the environment, the aging field has demonstrated that targeting some of the hallmarks of aging can delay or prevent the development of many diseases or even rejuvenate tissues and organisms. In the mid-2000s, Geo-science was born and with it progressively emerged the hope that the modern biology of aging may drive a revolution in human health in the not-so-distant future. On the backdrop of such rapid progress in biology, populations have continued to grow older throughout the world and our societal awareness of the associated challenges for human healthcare and well-being has become more acute [1].

Aging related diseases means "diseases of the elderly". Diseases like cancer, arthritis, cataracts, osteoporosis, type 2 diabetes, hypertension, cardiovascular disease, and Alzheimer's disease increases rapidly with aging. Aging Related Diseases is a disease that is most often seen with increasing frequency with increasing senescence. Essentially, aging-associated diseases are complications arising from senescence. The aging process is unique among health conditions in that the vast majority of us will get to experience it. By 2050, the American 85 years old and over population will triple. Clinicians and the public health community need to develop a culture of sensitivity to the needs of this population and its subgroups. Sensory changes, cognitive changes, and weakness may be subtle or may be severe in the heterogeneous population of people over age 85. Falls, cardiovascular disease, and difficult with activities of daily living are common but not universal [1].

Numerous factors were involved in determines eating habits including gender, marital status and household composition, socio-economic position, income, physical activity, smoking, body mass index (BMI) and health but the influence of these factors on eating habits has received little consideration among older adults [2].

Socioeconomic status (SES) is one of the most dominant predictors of health status and mortality worldwide [3].

A large body of epidemiologic data shows that diet quality follows a socioeconomic gradient [4].

Life expectancy, from around 50 years in the early 1900s to over 80 at the present time. However, age is the main risk factor for major debilitating and life-threatening conditions, including cancer, cardiovascular disease and neurode generation, all of which are therefore increasing in prevalence. Understanding exactly how ageing increases risk of disease is needed to help to tackle this growing problem [5].

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Nutrition is closely associated with skin health and is required for all biological processes of skin from youth to aging or disease. Nutrition levels and eating habits can repair damaged skin and can also cause damage to the skin. In recent years, a number of people have closely linked health-nutrition-eating habits and skin health, besides, clinical research and epidemiology have successfully combined nutrition with tissues and organ health and have confirmed that nutritional levels and eating habits have a certain degree of impact on skin health and aging.

Dietary habits refer to the preference for food or drink, are an important part of the dietary culture and influenced by regional, historical, cultural, product, and other factors. Although the incidence of vitamin, trace elements, and protein deficiencies in developed western countries are very low, imbalanced or incomplete diet can also lead to diseases and aging, thereby affecting skin health. Data from epidemiological and experimental studies suggest an important role of diet and dietary patterns in the pathogenesis of many age-related diseases [6].

Dietary intakes are highly related to health and disease. Although the specific mechanisms behind many food-health associations are largely unknown, a healthy diet [as specified in international and national guidelines] is important for the health and well-being of each individual. People with a lower socioeconomic position (e.g., a lower educational or income level or with a manual occupation) have poorer diets than do those with a high socioeconomic position. Lower socioeconomic groups are more likely to consume diets high in fat and low in micronutrient density and to have lower intakes of fruit and vegetables [3-8], which increases their risk of diet-related diseases [9-11]. To beable to facilitate healthy dietary choices among low socioeconomic groups, it is important to understand why they eat less healthfully [7].

Income is strongly associated with employment [8, 9] and so for the same reasons problematic of as an indicator of socioeconomic status in older age groups. Additionally, as those with serious health or disability problems are eligible for various types of financial assistance, reverse causation problems are compounded [10].

Aims and objective
The proposed work was undertaken to systematically study the prevailing scenario in the distribution pattern of certain common age – associated disorders in relation to covariates such as food habit. life style, family history, Neuronal status, educational background intoxication etc.

Research Design and Method
Data were collected and analyzed continuously. A sample survey of total 192 sample of urban elderly in 60+ age group in Darbhanga was carried out in municipal wards randomly selected.
Data were collected from the cross-sectional study group through questionnaire and clinical examination reports.

The work was proceeded as
1. Personal visits
2. Written questionnaire
3. Clinical examination reports
4. Questionnaire and clinical examined report
5. Computation of BMI.
6. Determination of Blood Pressure.
7. Estimation of cholesterol by Enzymatic Method
8. Blood Sugar by GOD/POD method.
9. Estimation of serum uric acid by Uri case Method
10. The following co-variates were included;
    i. Gender
    ii. Occupation
    iii. Family composition
    iv. Life styles
    v. Food habits
    vi. Nutritional status
    vii. Socio economic condition
    viii. Educational background
    ix. Family history of disorders
    x. State of intoxication

Results

Table 1: Gender-wise percent population of 60+ urban elderly depicting disease prevalence (Single/Multiple).

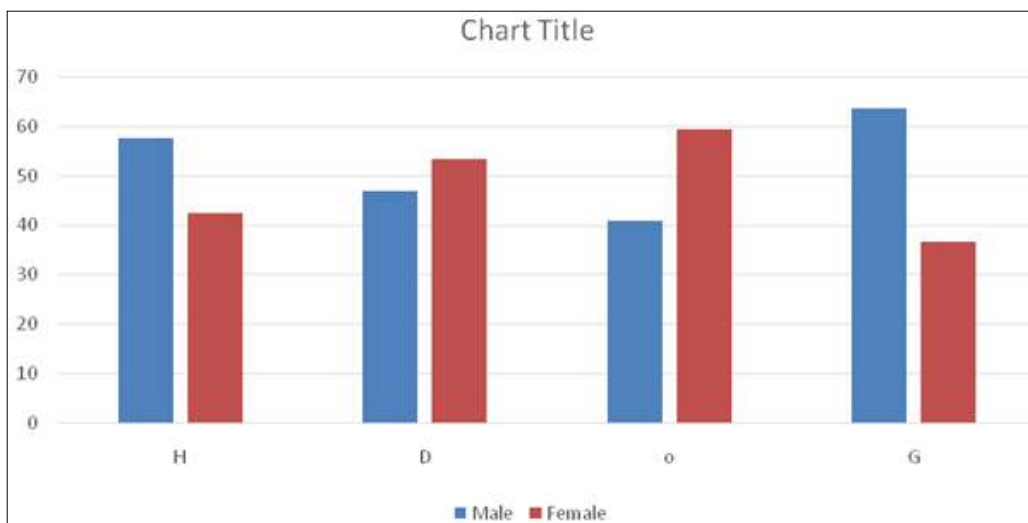| Disease	Male	Female
H	57.55	42.45
D	46.79	53.21
O	40.74	59.26
G	63.43	36.57

Fig 1: Gender-wise percent population of 60+ urban elderly depicting disease prevalence (Single/Multiple).

Age-associated disorders

Marked gender-wise differences in the distribution pattern of the four major disorders among the 60+ urban elderly surveyed in the present study were recorded. Interestingly, hypertension and gouty arthritis were found to be more male-oriented in comparison to diabetes and obesity which showed a preference for fair sex. Percent population hypertensive males and females were found to be 57.55 and 42.45 respectively. With regard to diabetes females showed higher incidence (53.21%) as compared to males (53.21%) as compared to males (46.74%). In relation to obesity males had lower incidence (40.74%) in contrast to females (59.26%). With regard to diabetes females showed higher incidence (53.21%) as compared to males (46.79%). In relation to obesity males had lower incidence (40.74%) in contrast to females (59.26%). Percent population of male with gouty arthritis were much higher than that of female. Males constituting about 63.43% whereas females comprising 36.57% only. (Table 1 & Fig. 1).

Table 2: Gender wise percent population of 60+ urban elderly depicting variations under selected covariates.

| Co-variates	Sub-groups	% of Population	
		Male	Female
1. Gender		53.86	46.14
2. Food habit	Veg.	9.38	13.36
	Non-veg.	90.62	86.64
3. Nutritional status	Under-fed	49.53	46.73
	Normal fed	40.52	45.09
	Over-fed	9.95	81.18
4. Life style/ Physical activity	Active	16.04	11.81
	Inactive	83.96	88.19
5. Family history	Hypertension	4.67	2.18
	Diabetes	5.45	5.0
	Obesity	1.55	7.27
	Gouty arthritis	--	--
6. Intoxication	Tobacco user	57.47	8.18
	Tobacco non-user	42.53	91.82
7. Family composition	With spouse	59.96	26.36
	Without spouse	40.04	73.64
8. Occupation	Employed	57.78	24.67
	Un-employed	42.22	75.33
9. Socio-economic status	Low	39.25	54.00
	Middle	56.38	40.72
	High	4.36	5.27
10. Educational background	Educated	67.55	52.00
	Un-educated	32.45	48.00
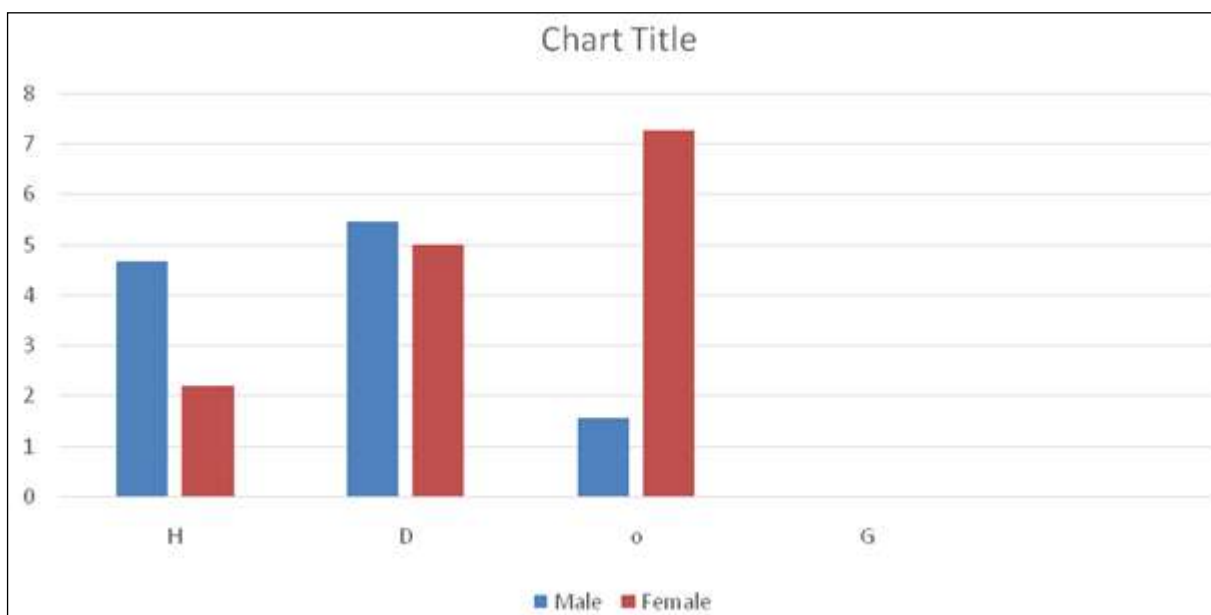
Fig 2: Gender-wise percent population of 60+ urban elderly depicting disease variations under family history.

Gender: The study groups comprised 53.86% males and 46.14% females.

Occupation: More than 57% males were found to be involved in some or other kind of employment. On the other hand percentage of females in un-employed category was found to be 75.33% much higher comprising about percent. Result showed that employment factor was heavily tilted towards male gender.

Family composition: Percent population of males and females with spouse were found to be 59.96% and 26.36% respectively. In general, widowed females (73.69%) significantly out numbered their widower counterparts (40.04%).

Life style: In both sexes physical activity level was found to be very low. Only 16.01% of males and 11.81% of females followed as active lifestyle in various ways, however, very high percentage of majority of the leading history elderly in both the sexes (83.96 in males and 88.19%) were observed "inactive".

Food habit: Non-vegetarian food habit showed dominance in both the sexes (85.05% males and 80.37% females). Preference for exclusive vegetarian food habit appeared to be less popular. Merely 14.95% males and 19.63% females maintained vegetarian food habit.

Nutritional status: Calorie requirement and food quality are intimately related for maintaining a healthy life style. The study undertook the nutrition status of the subjects in terms of underfed, normal and overfed categories. Majority of the subjects belonged to either the underfed or the normal-fed groups among both sexes. Percent population of 60+ male elderly felling under underfed, normal fed and over fed sub categories were found to be 49.53%, 40.52%, 9.95% respectively. In the similar way percentage population of female under the referred sub-categories were 46.73%, 45.09%, 8.18%, respectively.

Socio-economic status: Out of the three sub-categories (low, middle, high), larger section of 60+ urban elderly fell into middle and socio-economic status. Percentage population of males and females in "Low" category were 39.25%, 54.00% respectively. 56.38% males and 40.72% females were included in the "Middle" sub category. Negligible percentages of males (4.36%) and females (5.28%), were observed in "High" sub category.

Educational background: Higher percentages of subjects (67.45% males and 52% females) were found to be "educated". However, the data was more tilted towards male subjects. Among females, the difference between the educated and non-educated lots was relatively less prominent. Lesser percent population of both males (32.55%) and females (48%) constituted the "un-educated" category.

Family history: As regards the contribution of family history in the disease prevalence it appeared that it effected the individuals variably. We did not find significant difference between maternal and paternal components of family history. Diabetes showed the highest prevalence in families (5.45% in males and 6.38% in females). This was followed by hypertension which included 4.67% in males and 2.18% in females. Males showed insignificant family history for obesity (1.55%). However, the family factor of obesity in females was found to be higher (4.90%). Interestingly gouty arthritis was found almost independent of inheritability.

State of intoxication: Tobacco consumption appeared to be a male bastion. Percentage population of tobacco users were found to be 57.47% in males and 81.8% in females. Non-user males and females comprised of 42.53% and 91.80% of the total population.

Food habit: Disease prevalence the subject falling in the various disease categories were grouped into vegetarian non-vegetarian. Non-vegetarian hypertensive and diabetics were fond to be 83.07% and 89.92, 93.42% obese populations were non-vegetarian. Non-vegetarian food habit (93.40%) was observed to be predominant factor for gouty arthritis.

Discussion
In both genders, there was greater appetite for non-vegetarian recipes and this was more pronounced in males as compared to females. Percentage population of elderly subjects in "Under fed" and "Normal fed" subgroups of nutritional status were more or less similar in both the sexes. Physical activity was found to be low in both the genders, females being relatively more inactive. Family history of diabetes in both the genders and of obesity in females could be found to considerable degree. Tobacco use was more common in males. Contrary to males, females without spouse showed higher percentage. The study group mostly belonged to middle socio-economic status (56.38 males and 40.72% females). Males had higher percentage (67.55%) in "Educated" subgroup. To the contrary, females were less educated (52%). Higher incidence of tobacco use among elderly men mostly through smoking could be thought to have mediated lesser degree of obesity (Molarius *et al*; 1997).

Conclusion
A life style promoting adequate physical activity and daily dietary intake in turn with altered nutritional requirement in senility (Singh and Lal, 2004) appears imperative for active and normal ageing with minimal medication.

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