EFFECTS OF SOCIO-DEMOGRAPHIC AND RELIGIOUS DETERMINANTS ON THE LEVEL OF DEPRESSION AMONG ELDERLY LIVING IN OLD AGE HOMES: A CASE STUDY OF KARACHI

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ABSTRACT:

Depression among elderly (old-aged people) is a common disease and it is one of the leading causes of disability among old age people. About 850, 000 fatalities were recorded every year that is associated with the problem of depression among elderly (WHO: 2017)[20]. Pakistan is also one of the countries where depression associated with aging problems are increasing due to ignorance of religion that provides a comprehensive way of living. In the holy books (Holy Quran, Bible etc); it has been mentioned and discussed many times to show esteem and compassion towards elderly especially their own parents. Although, unfortunately, all these orders have been abandoned and disregarded by the followers. The total disrespect of the teachings and principles of the religion are in turn causing changes in socio-demographic conditions. These changing socio-demographic factors are being examined as the major causes of depression among elderly living in old age homes. Quantitative research methodology had been applied for this study. The universe of the study was the old homes of Karachi. The sample size of 150 respondents was selected. The primary data had been collected through structured questionnaire from the respondents, living in old age homes of Karachi. The data was

interpreted, presented and analyzed through a social science software; SPSS. The findings of the study indicated that the elderly living in old age homes, were suffering from severe symptoms of depression due to intolerance of the family members, trends towards nuclear family system and economic problems. The analyses of the data revealed that negligence of the Islamic views concerning elderly was the cause behind the socio-demographic changes which is both directly and indirectly related to the factors which had brought the elderly to the old age homes. The study recommends that the religious leaders must focus on this particular issue and preach to their followers regarding the treatment of elderly by their families and society through the teachings of Allah in Holy Quran.

Key Words: *Religion, Depression, Elderly, Socio- Demographic Conditions, Old Age Homes*

INTRODUCTION

Mental disorders are common and they occur frequently in all the societies of the world whether they are in developed or developing phase. The most widespread of these mental disorders are found to be depression and anxiety. Depression is the most common psychiatric or mental disorder among the elderly which can manifest as major depression or as minor depression characterized by a collection of depressive symptoms**.** Depression is recognized as a serious public health concern in the developing countries. The Global Burden of Disease study showed that depression will be the single leading cause of Disability Adjusted Life Years by 2020 in the developing world (Reddy; 2016)[14]. It was estimated that it affects every one person out

of ten persons i.e. 676 million people (WHO: 2016)[19]. Individuals with depression may encounter an absence of intrigue and joy of life, noteworthy weight reduction, sleeping disorders or exorbitant resting, absence of vitality, powerlessness to think, sentiments of uselessness or unnecessary blame and intermittent contemplations of death or suicide (Kazdin; 2000)[9]. The advances in the field of medicine over the past fifty years have led to an increase in the average lifespan of the population. In almost every country, the proportion of people aged over 60 years is growing faster than any other age group, as a result of both longer life expectancy and declining fertility rates. From 2000 until 2050, the world's population aged 60 and over will more than triple from 600 million to 2 billion. Most of this increase is occurring in developing countries where the number of older people will rise from 400 million in 2000 to 1.7 billion by 2050. It is estimated that by 2040, the number of people in Asia aged above 60 years will surpass number of children (Sheela; 2005)[15]. According to WHO Ageing Statistics (2017)[20], by 2050, 80% of older people of the world will be living in middle and low-income countries. The data shows that anxiety and depression leads to suicide as accessibility to the means of committing suicide as pesticides and pills are easily available in all parts of the world. The world statistics, also indicate that "Falls" are the second cause of death among elderly which is the resulting factor of severe levels of depression among them. It is estimated that out of 424,000 deaths related to "Falls", 80% of deaths are among 60 and above age group and most of them occur in low-income countries and regions of the world (World Health Statistics: 2016)[19]. Treatments for depression and anxiety are available and the rate of deaths related to

depression has decreased in the developed countries, however, the story is different in developing countries where there is a low rate of recognition of depression among elderly. Surveys of ageing people show that many cases go unchecked, undiagnosed and untreated (United Nations: 2015)[17].

Today in Pakistan, the biggest problems of elderly include solitude, loneliness, isolation, depression, neglect and a sense of not being wanted by the family members. Rapid increase in the number of nuclear families, urbanization and the global nature of employment opportunities are causing problems for the elderly. These changes are compelling the elderly to live alone or in old age homes (UNFPA; 1999)[18]. The current demographic profile of Pakistan shows that the total population is 195.4 million (Economic Survey of Pakistan: 2016)[6], among which the elderly population over 60 years of age constitutes approximately 5.25%. In view of poverty, economic disparity and inadequate health facilities, the elderly population suffers a number of setbacks. The government of Pakistan sought consultation on National Strategy on Health for Elderly in which a number of problems among elderly were identified like: loneliness, depression, fear of dying, lack of social relations, painful medical conditions, deprivation, lack of resources, and loss of a partner. In a local study five or more health problems were found in 72% elderly subjects with almost half of them taking three or more different medications daily for the issues of immobility, urinary incontinence, fatigue and visual impairment. Hypertension, diabetes and arthritis were the most commonly reported chronic ailments. Among the mental illnesses, depression has been identified as a significant problem. (Zafar, Ganatra, Tehseen & Qidwai;

2006)[21]. In a local study, there was a noted 22.9% prevalence of depression among elderly. It has also been indicated that chronic diseases in the elderly are consistent risk factors for depression (Amin & Gadit; 2010)[3]. However, the issues of elderly are dominating and influencing the social, financial and physical prosperity of people, their families and the general public of the society (National Research Council; 2001)[13].

Religion is a key source to cure many social problems especially depression, when one talks about the religious perspective. Islamic perspective, in case of Pakistani society where majority of population is Muslim, provides complete moral way of life and the elderly have special, protected and dignified status in Islam. They are considered the vulnerable part of society in Islam. Compassion and respect towards the elderly is an essential element of Islamic conduct. The last Prophet (PBUH) of Islam stated clearly: "He is not one of us who does not indicate delicacy to the youth and who does not show regard toward the senior citizens" (Al-Tirmidhi; 1919)[2]. In another Hadith, The Prophet (P.B.U.H) states, "The endorsement of Allah is the endorsement of the mother and father. The outrage of Allah is the outrage of the parents" *(Tirmidhi, Al-Birr (Virtue); 3)*[2]. While Islam emphasizes respect for all elders in society, children have a special responsibility towards their parents. The Glorious Quran says; "Thy Lord hath decreed that ye worship none but Him, and that ye be kind to parents. Whether one or both of them attain old age in thy life, say not to them a word of contempt, nor repel them, but address them in terms of honor. And, out of kindness, lower to them the wing of humility", and say: "My Lord! Bestow on them thy Mercy even as they cherished

me in childhood" (Al-Quran 17:23-24)[1]. In these verses, kindness towards parents is mentioned along with the belief in one God. These two verses reflect the compassion, respect and sense of responsibility that Islam requires the believers to have towards their parents. Another place, Allah narrates, "And serve Allah and don't relate anything with Him and regard the guardians and to the close of kinfolk and the orphans and the penniless and the neighbor of (your) family and the outsider neighbor, and the comrade in a trip and the wayfarer and those whom your right hands have; most likely Allah does not love him who is conceit, egotistic" (Al-Quran 4: 36)[1]. Another verses indicates, "Say: Come I will present what your Lord has prohibited to you- - (recall) that you don't relate anything with Him and show consideration to your father and mother, and don't kill your kids (because of a paranoid fear of) destitution - We accommodate you and for them- - and do not attract near to obscenities, those of them which are clear and those which are disguised, and do not slay the spirit which Allah has taboo aside from the necessities of equity; this He has urged you with that you may get it" (Al-Quran 6: 151)[1]. One more place, Allah orders, "We have enjoined upon man kindness to his parents, but if they exert pressure on you to associate with Me in My Divinity any that you do not know (to be My associate), do not obey them. To Me is your return, and I shall let you know all that you have done" (29: 8). Furthermore, We have ordered man in esteem of his parents... Be thankful to Me and to both your mother and father; to Me is the ultimate coming" (Al-Quran 31: 14)[1]. By showing importance of parents Allah says, "And, We have charged on man benefiting of to his father and mother; with inconvenience did his mom bear him and with inconvenience did she

deliver him; and the bearing of him and the weaning off him was thirty months" (Al-Quran 46: 15)[1]. It is emphasized many times in the holy book to respect elders but unfortunately it has been ignored by all which has created many other social problems in our society.

LITERATURE REVIEW:

According to the research conducted by Taqui (2007)[16], the nuclear family system is a strong independent predictor of depression in the elderly. The prevalence of depression in the elderly population in study was moderately high and a cause of concern. Since the hospital draws people from all over Karachi, it was hypnotized that the prevalence of depression in the elderly in Karachi was about one in five people. The progressive urbanization in a city like Karachi is inevitable. The nucleation of family systems is likely to follow. This transition in family systems may have a major deleterious effect on the physical and mental health of the elderly. Social support programs for the elderly especially females must be developed to ensure their well-being. It was concluded as the elderly living in a nuclear family system were 4.3 times more likely to suffer from depression than those living in a joint family system. Contrary to this, Mirza & Jenkins (2004)[12] asserted that Pakistan as a developing country is facing many social problems as political instability, financial problems, conflicts and violence etc. which have become great risk indicators for psychological disorders. Their study concluded that these socio-economic problems combined with relationship issues were the main indicators for anxiety and depression among elderly living in institutes whereas elderly people living with their supportive families had protected them from such disorders. On the other hand, Ganatra, Zafar, Qidwai and Rozi (2008)[5]

argued that the higher number of daily medications, rising health problems, financial problems, urinary incontinence and inadequately fulfilled spiritual needs were the risk factors identified for depression in the elderly which needed to be taken into account by practicing family physicians and health care workers. Furthermore, besides health problems, difficulties in relationships and were also found to be stressful life events. Being female, a widow, with low education and physical morbidity gave high risks for depression in the elderly. The study also found that there were some communities who were helping elderly by initiating financial allowance though they were small amounts in nature. This type of support from both family and community had positive impact on their mental health. Juva, Valvanne, Erikinjuntti & Tilvis (1998)[8] study also revealed the same results that depression was high (16%) among institutionalized elderly as oppose to those living at home (4%). Risk factors were their health, Physical and mental functionality which were highly associated with depression among them. The study also compared depression between healthy and unhealthy elderlies living in the institutions and found that depression was very high among disabled or elderly suffering from any kind of disease (Parkinson's disease, urinary incontinence, heart disease) as compared to those who were physically healthy. Jongenelis, Pot, Eisses, Beekman, Kluiter and Ribbe (2004)[7] stated that the prevalence of major depression was assessed to be 8.1% and the prevalence of minor depression was 14.1%, while a further 24% of the patients suffered from sub-clinical depression. It was concluded in their study that population in old age nursing homes had high prevalence of depression among them. Depression has many risk factors that includes age itself,

physical pain, weak eyesight, stroke, isolation, limited functionality, unfortunate life experiences, inadequate family support and unsatisfactory care of the elderly. In order to develop programs for this vulnerable segment of society; best physical treatment and exclusive interest on psychological factors should be the focus of the programs. McDougall, Matthews, Kvaal, Dewey and Brayne (2007)[10] observed that depression was found among all the elderly population although high prevalence was among those elderlies who had some kind of serious functional deficiency. It was also found in the study that depressive disorders were high (27%) in old age institutions as compared (9%) to those living with their families showing elderly living in old-age homes were suffering from more depressed mood. The study revealed that age and functional disability were highly associated (p<0.009) with level of depression among those living in old-age institutes. Functional disability led to depressed mood and other severe symptoms as committing suicide. Those feelings were found more common in institutions among elderly as compared to those who were living within a community. Danesh & Landeen (2007)[4] compared depression between male and female in their study showing the ratio of depression was approximately 0.60. The study also highlighted that depression level' were high among elderly who have lost their life partners either by divorce or death.

OBJECTIVE OF THE STUDY

- To study the socio-demographic factors responsible for the depression among elderly living in old age homes.
- To find out the level of depression in elderly residing in old age homes.

HYPOTHESES

- Gender is associated with the level of depression among elderly living in old age homes.

- Age group is associated with the level of depression among elderly.

- Educational qualification is associated with the level of depression among elderly.

- Type of family is associated with the level of depression among elderly.

- Marital status is associated with level of depression among elderly living in old age home.

- Number of children is associated with level of depression among elderly living.

- Marital status of children is associated with the level of depression among elderly.

- Employment status of children is associated with level of depression among elderly.

- Type of decision to join old age home is associated with the level of depression among elderly.

- Duration of stay is associated with the level of depression among elderly.

- Number of visits by the family member is associated with the level of depression among elderly living in old age home.

RESEARCH METHODOLOGY:

The present research is an explanatory research. Quantitative research is an objective understanding of the phenomenon based on the

relationship between the event and the phenomenon (Merriam2009)[11], having numerical form of result. The quantitative approach was applied to study the problem of elderly. The object was to gain familiarity with the situation of the level of depression and the effects of different socio-demographic conditions on level of depression among elderly living in Old Age Homes. The selected universe of present research was consisted of Old Age Homes in Karachi city. Old Age Homes administered under Edhi Foundation are located in Sohrab Goth, North Karachi and Qasba Colony and Clifton. These old age homes are open to all abandoned, shelter less elderly regardless of ethnic background, religion, sex, area etc. Respondents were selected through non-probability Purposive sampling. A sample of 150 respondents (Female 73 & Male 77) which was drawn by adopting the procedure of proportional allocation. In the present study, the data was collected through questionnaires comprised of both open ended and close ended questions. Data has been analyzed through SPSS software (Statistical Package for Social Science). P-value has been calculated to test the hypotheses.

MAJOR FINDINGS:

- 51.33% respondents were male elderly and 48.7% were female elderly living in old age homes.
- Majority of respondents i.e. 56% belong to the age group 60yr-64yr, 26% respondents belong to the age group 65-69, 11.33% belong to age group 70yr – 74yr and 6.7% belong to the age group 75yr and above
- 63.33% respondents were married while 36.7% respondents were unmarried.

- 58.7% were literate while 41% were illiterate.

- 39.6% of respondents' qualification was primary, 27% had secondary, 15.9% had done matriculation, 14.5% were graduates and 4.4% were post graduates

- Majority of respondents i.e. 51.33% had joint family system while only 31% had nuclear family background

- Majority of respondents i.e. 33.3% had government job, 24.5% were daily wage earners 19.6 % were employed in private organization and 22.5% had their own small scale businesses.

- Monthly family income of majority of respondent i.e. 26.6% was Rs.5000-Rs.9000

- Majority of respondents i.e. 54% had 5 to 9 children while 45% had 1 to 4 children

- Majority of respondents 77.09% had married children while 22.1% had unmarried children

DISCUSSION AND CONCLUSION:

Depression in elderly is a common disease and considered very normal with increase in age, however, it severely affects health. It is one of the leading causes of disability as well as tragic fatality associated with the loss of about 850,000 lives every year. Researchers found several factors in the present study conducted on the depression among elderly living in old age homes. As in first hypothesis, there was moderate relationship between gender and level of depression among elderly living in old age homes. The calculated value of chi-square was approx. 64 where

p-value was 0.0001 suggesting highly significant relationship between gender and depression. Depression was more severe among women as

compared to men. The reasons behind it includes lack of companionship due to widowhood and in Pakistani cultural setting; second marriage of elderly women is not socially acceptable. Whereas males are likely to get married again as there is less stigmatization towards males in Pakistani society.

In view of statistical analysis, the calculated value of chi square was 0.23 and P-value was 0.9726 in hypothesis 2 which was not statistically significant and denoted no relationship between age and level of depression among elderly living in old age homes. Ignorance from the family members and other social factors can cause depression at any age and in the light of findings in contingency table, mild depression was seen and it was higher in the age groups of 60-64 and 65- 69. Generally, it is the phase of (decision making) power shifting from parents to children and feeling of powerlessness among elderly is high at this level. Then, with the passage of time, they start accepting these changes and depression level gradually comes down although when living in old age homes it does not dissipate rather it increases with the passage of time.

According to hypothesis 3, there was positive relationship between qualification and level of depression among elderly living in old age homes with 18.6 value of chi-square and p-value of 0.001 showing extremely significant relationship. The findings suggested that depression was severe among those who were less-qualified because people who had done their matriculation or above made themselves busy in some positive activities or had found some work that caused low level of depression among them.

Hypothesis 4 claimed highly significant relationship (Chi-square-23.64 and p-value= 0.001) between type of family and level of depression among elderly living in old age homes. The responsibilities are shared in joint family system whereas in nuclear family system people feel burden due to in-door and out-door responsibilities which causes depression. On the other hand, mild depression was found due to interference in each other matters, thus it was concluded that the type of family had effect on the level of depression.

The calculated value of chi square of 43.247 and P-Value < 0.00001 showed significant association between marital status and levels of depression among elderly living in old age homes in Hypothesis 5. The proportion of mild depression is higher among married people because they had more responsibilities than unmarried people. Unmarried people were severely depressed or felt anxious due to loneliness or lack of companionship.

In hypothesis 6, there was no relationship between number of children and level of depression among elderly living in old age homes. The result of P-Value = 0.404807 was not significant at p < 0.05 and with the calculated value of chi square (0.694). Thus, it was inferred that the number of children an elderly had, had no impact on their level of depression. In both cases, where number of children were either more or less, all the elderly living in the old age homes were found to be depressed.

There was no association between marital status of children of elderly and level of depression in Hypothesis no. 7 (Chi-square=2.32, p-value=0.1277). However, contingency table showed about same level

of depression in both cases i.e. elderly with married children or unmarried children.

Hypothesis no. 8, with calculated value of chi square (0.079) and p-value of (0.77865) showed no relationship between employment status of children and level of depression among elderly living in old age homes but both mild and severe depression were found among elderly who had employed children. Self-sufficiency and being independent made children able to take family decisions therefore isolating their parents.

The calculated value of chi-square, 123.7 and p-value < 0.0001 showed highly significant association between the decision to join old age home and level of depression among elderly living in old age homes in hypothesis no. 9. Some of the elderly joined the old home by themselves but majority of the elderly were forced to join old age by their family members. This emotional traumatic situation led towards their emotional break-down causing many psychological disorders.

Hypothesis no.10 (chi-square= 1.291 & p-value < 0.52466) indicated no relationship between duration at old age home and level of depression among elderly living in old age homes but it was found that as time passed, level of depression among some of the elderly had gone down due to treatment and adjustment with their new social environment.

There was highly significant association (chi-square= 46.019 & p-value < 0.0001) between number of visits by family members and level of depression among elderly living in old age homes in Hypothesis no.11. The studies show that duration of visits by the family member has great impact on the mental condition of the elderly. Elderly, whose

family members visited monthly or annually, were less depressed because they still had feeling of support from their family members whereas, whose family members never visited, were severely depressed and felt like they have been casted-off or abandoned by their families. It had shattered all kinds of hope among them creating feelings of estrangement and causing severe depression.

The present study can be summarized with the inference that elderly living in old age homes have severe levels of depression. The present study found that poverty, intolerance and nucleation of family members of the elderly were the strong predictors for residing in old age homes. The prevalence of depression in the elderly population in our study was noticeably severe and a cause of concern. Greater depression was associated with lesser or no visits by their family members, Separation from family and close friends, less satisfaction with life, widowhood, poor monthly family income and poor physical health and retirement from work were observed to be leading the causes of depression among elderly. The more notable finding was that females were more depressed than male due to the cultural set-up of patriarchal society in Pakistan. The literature review supports the fact that elderly living in old homes are more depressed than those living with their families. Nuclear families are rapidly replacing the joint family system in urban areas of Pakistan, especially Karachi, a mega cosmopolitan city, where family members are unable to provide support to all their family members. Many of the families want to increase their standard of living and make their quality of life better but at the cost of the elderly members of their families. These types of families are opting the institutions for their elderly dependents as

children are the family's future bread earners therefore the elderly can easily be discarded. Some of the families who already have high standard of living, although they do not want to burden themselves with the responsibilities of taking care of old members of their families, are also admitting their elderlies in the institutions. The factor of neglecting the religious values or lack of religious understanding has given rise to the establishment of such institutions, especially in Pakistan, a Muslim country. Religious awareness programs should be focused towards the general population consisting of the respectable treatment towards elderly and awareness about the rights of the most vulnerable and neglected segment of the society.

RECOMMENDATIONS:

- There is no systematic or empirical study which would highlight the existence of old age homes in urban areas of Pakistan. Edhi Foundation is one of the glaring example of a service where abandoned elderly people are housed. These elderly people are shunned away by their children under different pretexts like poverty, illness among elderly and general intolerance. The Government should take notice of the issue and recommend policies and solutions of the issue.

- The literature in the field of Gerontology and Geriatrics is limited in Pakistan. There is need for the researchers to focus their attention in these areas to understand and quantify the problems of the aged. Universities, research institutes, civil society groups and NGOs should conduct longitudinal studies on various aspects affecting the life of the elderly

comprehensively, with the main purpose of improving their overall well-being.

- The joint family system, which avoided loneliness of the old persons and provided them ample security, is gradually breaking down. The social, economic and psychological changes are compelling the elderly to live alone or in old age homes. Government should establish day care/recreational centers or facilities for such vulnerable segment of society.

- Furthermore, immediate steps should be taken by health sector for care and security of elderly, efficiency and effectiveness must be assured.

  Life span was comparatively short earlier so elderlies were not a disproportionate burden but now due to major demographic and sociological changes, life expectancies have risen dramatically in Pakistan from about 38 years to over 65.5 years (males) and 67.7 years (females). Now the number of senior citizens has increased to10 million out of a total population of 195.2 million in Pakistan (Economic survey of Pakistan, 2016)[6]. Like other developing countries, there are no Institutionalized arrangements to protect senior citizens in Pakistan. Government of Pakistan should make arrangements to adjust to these demographic transitions and minimize the adverse effects faced by elderly population. One suggestion is to increase the age of retirement as life expectancy is continuously increasing in Pakistan.

- Pakistan's neighboring countries like India and Nepal, have introduced universal pension system for their elderlies; both

productive and non-productive. India has the second highest population of the world with more than 1.3 billion people, and they are able to maintain this system for old segment of their community then Pakistan with the population of 195.2 million (60+ =5.25%) can manage this type of system too.

• Media should play its part by advocating the family members about their roles and responsibilities towards their elderly members of the family by using religious teaching and guidance.

REFERENCES:

1. Al-Quran, Surah17; Verses 23-24., Surah 4: Verse 36., Surah 6: Verse 151., Surah 31: Verse 14., Surah 46: Verse 15.
2. Al-Tirmidhi, Hadith 1919 & (Al-Birr) 3.
3. Amin, A., & Gadit, M. (2008) ``Elderly Abuse: Tip of the ice berg`` Journal of Medical Association Pakistan.
4. Danesh, A., & Landeen, J. (2007). Relation between depression and socio-demographic factors. *International Journal of Mental Health Systems*, *1*(1), 4.
5. Ganatra, H. A., Zafar, S. N., Qidwai, W., & Rozi, S. (2008). Prevalence and predictors of depression among an elderly population of Pakistan. *Aging and Mental Health*, *12*(3), 349-356.
6. Government of Pakistan. (2016) *Economic survey of Pakistan: 2015-2016*. Finance Division Economic Advisor's Wing, Islamabad, 2016.
7. Jongenelis, K., Pot, A. M., Eisses, A. M. H., Beekman, A. T. F., Kluiter, H., &Ribbe, M. (2004). Prevalence and risk indicators of depression in elderly nursing home patients: the AGED study. *Journal of affective disorders*, *83*(2), 135-142.
8. Juva K, Sulkava R, ErikinjunttiT, Valvanne J, Tilvis R (1998): *Prevalence of dementia in the city of South*

Korea, The journal of international Korean medicine, Vol.19 (2), p 806.

9. Kazdin, E. A., (2000), *Encyclopedia of Psychology*, Psychological Association and Oxford University Press, Volume 8: p4128.

10. McDougall, F. A., Matthews, F. E., Kvaal, K., Dewey, M. E., &Brayne, C. (2007). Prevalence and symptomatology of depression in older people living in institutions in England and Wales. *Age and Ageing*, *36*(5), 562-568.

11. Merriam, S. B. (2009). Qualitative Research: A Guide to Design and Implementation (2nd ed.). San Francisco, United State: Wiley.

12. Mirza I, Jenkins R. (2004), *Risk factors, prevalence, and treatment of anxiety and depressive disorders in Pakistan,* Systematic review. Journal of Pakistan medical association.

13. National Research Council Report (2001), <u>*Preparing for an Aging World: The Case for Cross-National Research*</u>, <u>National Academies Press (US)</u>.

14. Reddy, K Srinath (2016), *Global Burden of Disease Study 2015 provides GPS for global health 2030*, The Lancet Global Health Journal, Volume 388, Issue 10053, 1448 - 1449

15. Sheela. A.S. (2005), *Socio demographic profile and Mental Health status of Elderly in old age homes*, Ph.D. Thesis, p3.

16. Taqui, M. A., Itrat, A., Qidwai, W., Qadri, Z. (2007), *Depression in the elderly: Does family system play a role?* A cross-sectional study, <u>BMC Psychiatry</u>.

17. United Nations (2015), *World population ageing 2015,* Department of Economic and Social Affairs Population Division, New York, p109-110.

18. United Nations Population Fund –UNFPA (1999), *Growing Old in Pakistan: Study on the situation of Elderly people in Pakistan* p136.

19. World Health Organization (2016), *World health statistics 2016: monitoring health for the SDGs,*

sustainable development goals, WHO press, France p62.

20. World Health Organization (2017) *Ageing and health statistics: September 2015,* Fact sheets, WHO, 2015 accessed from http://www.who.int/mediacentre/factsheets/fs404 in March 2017.

21. Zafar, S. N., Ganatra, H. A., Tehseen, S., Qidwai, W. (2006), *Health and needs assessment of geriatric patients*" survey at a teaching hospital in Karachi. J Pak Med Association p56.