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Statistical Analysis of Socio-Economic Factors Affecting Elderly Aged People: A Case Study of District Swabi, Khyber Pakhtunkhwa

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Abstract

Elder people used to have respect, authority and decision-making power in the recent past. This dynamic has changed recently. The advancements in technology, industrialization and urbanization have changed the position of elderly people in family and society. They are now vulnerable to many socio-economic challenges that affect them adversely. District Swabi, Khyber Paktunkhwa, is a traditional society where elder people are considered the responsibility of immediate family members. Their economic, social and physical needs are met by their children and grandchildren.

In this study, Multinomial Logistic Regression Model has been applied to explore the socio-economic factors that affect old aged people in district Swabi. The data was collected from different villages of Dist. Swabi through convenient sampling technique. The sample size of the study consists of 300 elderly people of age 60 years or more. Data regarding the education level of elderly people revealed that out of 300 people, 130 were illiterate, 57 had primary education, 63 were matriculates, 32 were intermediate and only 18 had more than intermediate education. The data about health of elderly people included in the sample revealed that approximately 11% were healthy, 24% had joint pain, 21% had blood pressure and 17% were suffering from diabetes (High blood sugar). Investigation of likelihood ratio test showed that the socio-economic variables like family income, advice, respect, disease and the income level of elderly people are significant risk factors for elderly people. The research shows that there is strong association between education and family income of elderly people. Respect by children and satisfaction in life also showed strong association. Strong association was found between satisfaction in life and contacts with friends. The

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odds ratio showed that elderly males are far more educated than females moreover the study shows that females face more isolation compared to their male counterparts.

Keyword: Elder aged people, Socioeconomic, Swabi, Gender, Multinomial Logistic Regression

Introduction

The elders usually enjoy a lot of profound love and respect of their children and grandchildren. Their presence in family is considered as blessings. They are the mortar that held our foundation together and are always ready for help. Their opinions and expertise are highly sought after in daily matters. The elders head not only their own family but also lead neighbors and community. Their advice is highly sought after in different issues and their opinion is usually considered as final. They are the sources of inspiration and blessing. They add joy and happiness to their families. The elders used to play an important role in family and society, but now things are beginning to change. In present times, societies are changing fast and it affects the role of elder people. Social and economic needs of elder people are fastly evolving with changing surroundings and it influences them directly.

The most obvious signs of old age are changing of physical appearance, e.g. appearance of wrinkles on face; the graying of hair; slowing down of reaction and proneness to chronic diseases. Old age can be classified into various groups such as physiological, biological, functional and emotional. Physiological aging is linked with behavioral and individual changes, biological aging concerned changes occurring in the structure and function of the body, same age group in terms of those within the group being incapable to uphold their functions in society and in the last emotional aging describes difference in one's lifestyle and attitude dependent on one's self-perception of being old (Ayranci & Ozdag, 2005; Niaz et al., 2009).

Human being passes through different phases in their lives such as childhood, adulthood, middle age and old age. Aging is the course of human life and cannot be stopped. Old age is considered as the last stage of life where a person reduces all his strengths. Their hair turns grey, physically become weak, often lose their temper and demand more attention from family members. As old people are physically weak, they face more diseases and need integrated health care facilities. But elders, especially in the developing countries like Pakistan, don't get the due care. The elders in young age spend their entire life in dedicating services to their country and society. So when they get old it is the responsibility of the country and the society to provide them necessary facilities. Allah has recommended kind care and respect of parents. Allah wants us not to speak harsh or unkind words to parents especially when they are old or in need or unable to do things for themselves (Niaz et al., 2009).

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Verses from Quran reflect these values:

"And your lord has decreased that you worship none but Him. And you are dutiful to your parents. If one of them or both of them attain old age in your life, say not to them a word of disrespect, or shout at them but address them in term of honor". (Holy Quran Al-israa, verses 23)

"No one does more for you than your parents and it is they all people whom diseur's great lone, thanks and respect. They are the ones who tiredness and difficulty for the sack of us, their children" (Holy Quran 17: 23-24).

The world population is increasing at accelerated speed. There are two distinct features of global population; one is the aging of population and the other is feminization (because of lower mortality among females) of aging. The population where the number of children decreases and number of elder's increases is known as ageing of population. The world population of old person (60 years and above) was 9.2 percent in 1990. It increased to 11.7 percent in 2013 and will continue to increase. It is estimated that population of elderly will reach to 21.1 percent in 2050. The population of elderly was 841 million in 2013 and it is estimated that it will be more than 2 billion in 2050. The old population is predominantly female. Females outnumber males almost everywhere in the world. In year 2013, there were 85 men for 100 women in age group 60 and above and 61 men for 100 women in the age group 80 and above (United Nations, 2013). In this new millennium due to urbanization and westernization, the norms of eastern family are greatly affected. People leave their parents and go to faraway places for their economic betterments. Even if children live with their parents they don't like any interference from their elders in their life. Elder people feel denial of respect and care by youngsters. In such a situation they feel themselves worthless and confine in social exile. Thus the need arises of integrated care for health, social and economic problems of elders (Chohan, 2007). In Pakistan, population of aged people is fast growing. The population of age 60 and over is 6.5 percent of total population. On the whole sex ratio is in favor of men i.e. 106 percent. The fertility rate of Pakistan has gradually decreased. According to United Nations report total fertility rate was 6.6 in 1975- 80, it is expected to be 3.22 in 2010-15 and 1.99 in 2045-50. This reduction in fertility rate is the main cause of increase in elderly population (UN, 2012).

The objective of current research is to analyze the social and economic influence on elder people of district Swabi. At the best of the knowledge of the researcher, in Swabi, the issues regarding the ageing population have not been taken seriously by the researchers. There is no research study available for the area. Eventually, very few data set is available that address the key issues related to the elderly people. District Swabi is one of the 25 districts of Khyber Pakhtunkhwa. It is one of the most fertile districts of Pakistan. Predominantly it is a rural area but considerably modern and developed district. Swabi is mostly occupied by Pashtuns. Traditionally Pashtuns are very religious and respect their elders.

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Families are responsible to take care of their elders and fulfill all their needs. But nowadays children move to big cities for education and jobs leaving behind their parents alone. Even if elders are with their families, due to poverty, ill health and inflation they face many social and economic problems (Khan, 2010).

In the current study survey technique is used to collect research data. Detailed scheduled questionnaire is designed in order to collect data from villages of district Swabi using convenience sampling technique. Convenience sampling technique is used because elderly people whose ages are 60 years and above are not easily available so only those subjects are selected which are volunteer and easily accessible. Since the response variable in this research is composed of categories therefore multinomial logistic regression model is employed. Moreover, descriptive statistics are also provided.

Social and Economic Problems of Elderly People

The recognition of social and economic problems is in large measured by the particular social culture circumstance in which they are made. There are three ways in which elderly face social and economic problems. They are health, poverty and social loss (Chohan, 2007). The elderly people are not likely to remain as vigorous as people under 60-65 years. However poor health cannot be associated with old age only. Old people in general are vulnerable to the chronic diseases such as high blood pressure, heart problems and mental health problems which tend to increase with age. Older person does not only face health related problems, they also spends more on health care, drugs and have more physicians and hospital visits (Cronwell & Waite, 2009).

The other problems that elderly persons face are reduction in income resources because of retirement and lack of involvement in economic activities due to poor health. Pension is provided to the retired people but prices and inflation is so high that it cannot fulfill all the needs of the elderly people. Moreover, they might face social adjustment problems by losing spouse, close family relative or friend due to death or other reasons, leaving the elderly individuals alone (Chohan, 2007).

Demographic Transition

In 1929, an American demographer Warren Thompson observed the pattern of birth and death rates over previous 200 years. He noticed that there were some relationship between rates and level of the society depend on industrial technology. Such a changes in population, from high birth and death rates to low birth and death rates, as the country develops from pre-industrial to an industrial economic system is known as Demographic Transition (Kirk, 1996).Before 18th c the world population growth was very slow and irregular. Population of the world reached to one billion in 1800. The modern population extension started then. It increased steady and reached to 2.5 billion in 1950. The world population

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accelerated to historically unprecedented levels. It is expected that global population will reach 9.2 billion in 2050 (U.N, 2007). Decline in the death rate and increasing birth rate up-lead the population size. Such a demographic transition brings about development process that transforms an agriculture society to an industrial one. Before a transition starts, population growth is near zero as there are more deaths due to lack of medical and health care facilities. At that time fertility rate remain also high due to high death rate among children. The population development is again zero after the conclusion of transition as there is low birth and death rates (Bongaarts, 2009).

Stages of Demographic Transition

Demographic transition is mainly divided in five stages.

Stage 1: It is the process of population growth that prevails in most parts of the world before the industrial revolution. At that stage of population growth remain nearly unchanged and constant. However some up and down swing can be observed because of famine war or infectious diseases. The rate of birth and death both are high for number of reasons:

- Lack of knowledge of disease prevention and cure
- Lack of food shortage and storage.

Stage 2: In stage two due to advancement in medical science death rates declines and birth rate remains high. Most of least develop countries now are in stage two. The factors that cause reduction in mortality are:

- Improvement in agriculture brought about high food production.
- Improvement in public health.

Stage 3: In stage three there is decline in birth rate. Continues fall in childhood death make parents realize that fewer children will be sufficient for them. In this stage population expansion continues but at in slow rate. Most developing countries are in this stage. The factors contributing to the decline in birth rate are:

- Improvement in economic condition of people.
- Increase in women education and employment.
- Improvement in contraception technology.

Stage 4: In this stage both birth and death rates are low. It is usually as a result of stable economic condition, better education, development in health care facilities, women involvement in work force and fertility hovering around two children per women. Most of the developed countries are in stage four.

Stage 5: This stage involves those countries where fertility rate is very low and life expectancy has reached to the highest summits. In this stage elders comprise greater portion of population. This is the last stage where population starts decline (Gover, 2014).

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Factors Driving Demographic Transition

The main factors which result in bringing demographic transition in a country are: fertility, life expectancy (mortality), initial age profile of the population and migration (PRC, 2015).

Fertility

The last half century has observed sharp decline in fertility rate. The most wildly used measure is total fertility rate. Total fertility rate is defined as "the number of children a woman would have by the end of her reproductive years if she experienced age-specific fertility rates prevailing in the given year" (Bongaarts, 2009). Among the world major religions groups, Muslims have peaked Total Fertility Rate. During the period of 2010-2015, a global average was 3.1 children per woman. This is the main reason that Muslim population is likely to grow worldwide in decades to come (PRC, 2015). During 1990s Pakistan had a major shift in fertility decline (Nayab, 2006). The fertility has fallen down from over six children per woman to 4.5 children per woman by the year 2000.

Life Expectancy (Mortality)

Mortality is indicated by life expectancy at birth. "Life expectancy is the average number of years a new born would live if subjected to age-specified mortality rates observed in given year"(Bongaart, 2009). Pakistan continual decline in mortality have been the key reason of population growth in the past. Since the middle of twentieth century, Pakistan has observed extra ordinary rapid improvement in life expectancy, mounting from 41 years in 1950-1955 to 65 years in 2013. These improvements are particularly due to the global spread of health technology, rising standards of living and nutrition, and improved medical care. For the coming four decades life expectancy will continue to rise, reaching 72 years in 2050 (Bongrrats, Sathar, & Mahmood, 2013).

Age Structure

In the decades to come, the world population will grow as people will live longer. From 1950 to 1980, median age of world population was 20 years. By 2010, median of the world population raised to 28 years. And by 2050, it is anticipated that world population median will rise to 37 years. This rise in median age is due to declining fertility rates and lead to relative steadiness in the number of young children as the number of elderly population soars (U.N, 2010).

The fertility and mortality trends of population in Pakistan are indicating an increase in median age of its people (Nayab, 2006). Median of the population was 20 years in 2006 which shows that half of the population was younger than twenty years. Median of population will reach to 33 years in 2050. Pakistan median age started to grow in 1990s and the same trend will continue for the

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coming decades (U.N, 2005). It is anticipated the young people in Pakistan will have smaller families than earlier generations. Better educated young women, are likely to have fewer children than their mothers (Bongrrats et al., 2013).

Migration

Migration has no intimate impact on population of a country. It is really hard to estimate future migration because the moment of people in the world is dependent on government policies and international events that can alter quickly. As many migrant chase economic opportunities, migration trends also depends on changing economic conditions of countries (PRC, 2015). The net flow of out-migration in Pakistan is estimated at 1 per 1000 population. This makes a very small component, only slightly slowing population growth (Bongaart et al., 2013).

Demographic Transition in Different Countries

Around the world demographic transition is in different stages in different regions. Study has shown that combination of declining mortality and fertility in Japan has led to an aging population. Rapidly declining birth rates and increasing life expectancy has lead to declining population. Japan is the leading country in shrinking its population. However Japan is unique in four ways relative to other countries of the world (Horiai, 2011). They are following:

1) Its aging process is faster than any other country.
2) It has achieved highest life expectancy rate.
3) The portion of old age people (65 +) is highest.
4) Its population is declining in the fastest rate compare to other countries.

None of these changes augurs well for Japan. Germany has passed stage four of demographic transition and has entered in stage five, where the crude birth rate (CBR) are less than crude birth rate (CBR), result in negative population growth rate. Large number of rapidly increased immigration has induced no effect on its population growth. This shrinking population has endorsed different problems. Shrinking population has significant effect on country's economy and social welfare such as burden of graying population and declining workforce. In 2007, Germany has passed parental friendly laws. The main purposes of these laws were to encourage parents to have more children and to enhance fertility rate. But it seems all these efforts don't work out (Osterday, 2013).

The study of demographic transition has shown that Pakistan has entered the demographic bonus phase where child dependency decreases and share of youth in population rises. Decline in fertility rate started in late 80s and it proceeded rapidly in last two decades. As a result, the share of working age people is rising. In coming two- or three-decades child dependency will decrease and there will be low burden on working age population. However after approximately three

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decades the population of elderly will increase, consequently it will increase old age dependency (Atif & Chaudhry, 2008).

The socio-economic problems of elderly people is one of the emerging issues of the developing world. Developed countries have taken the issue very seriously since long and a lot of studies have been done on it. In old aged, people face numerous social, psychological and physical problems. Adjustment with these changes is a difficult process. It is inevitable to have close contacts with relatives and friends in late ages. This reduction in sociability substantially increases psychological diseases (Singh & Misra, 2009).

Aging world population has become an insurmountable challenge for developed and developing countries. Pakistan being a developing country has increased its life expectancy and number of old people and is speculating to multiple the number of old people in coming years. Pakistan is a Muslim country where old people are loved and cared by the family and society. However considerable changes have undergone in society these elderly people face problems like lack of respect, no role in decision making, verbal abuse by their own children etc. furthermore poor health and economic dependency has increase the adversity of old age (Alam et al., 2013).

With the advancing age the participation of elderly people in the social activities has reduced. The adult old are vulnerable to poverty (due to retirement and lack of income generating activities), widowhood and morbidity. There is a high prevalence of chronic conditions such as poor eye sight, high blood pressure, diabetes and Alzheimer's diseases among old people. Most of the old people engaged themselves in religious pursuits. Participation in religious activities helps them to fight chronic diseases, depression and loneliness. Cultural and political activities help old people to remain active in late life. However the participation of elderly women in social and economic activities is very low as compared to men which shows that they face more isolation and ordeal than their counterparts (Ahmed & Hafeez, 2011). The elderly people comprised 7% of total population in India. Significant changes have occurred in demographic structure of population due to decline in fertility and mortality rates and increase in life expectancy. Nowadays there are more old people than ever before. With the longevity of life, old people face numerous physical weaknesses. Decline in health adversely affect the social economic condition of elder people. Due to physical and economic loses they depends on their children and relatives. Most of the elderly feel negligence from younger generation (Lena et al., 2009).

Unfortunately, nowadays young people do not consider it important to take consent of their elders in important affaires of family. The environment to establish social contents with friends and relatives is not provided to them. As the old aged people are in such age where can't provide social benefits to their families, also, for financial needs dependents on their families. Most often pension is their only source of income which found not enough to satisfy their

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needs and desires (Niaz et al., 2009). Ageing found as an inevitable fact in every human being and decline in mortality as the number and proportion of elders is increasing in both the developed and developing countries. The health-related problems observed most frequently in elderly aged persons. Such problem ranges from simple chronic conditions causing some trouble to severely disabling illnesses. With ageing population, the numbers of elderly with chronic conditions like heart disease, cancer, trauma dementias and Alzheimer's disease etc. increasing rapidly in such aged people. Chronic diseases have been a major cause of suicide in the patients over 50 and 70 years of age. As this population of elderly aged people growing day by day, the need for research in the health and socio-economic context is required (Baig, Hasan & Ilyas, 2000).

Nearly all parts of the world are experiencing unprecedentedly rapid demographic changes. The population of the world has increased extensively; four billion have been added since 1950. The next half century is expecting to face high divergent population transition. Population will decline in developed countries and will increase in least develop countries round the world. The other demographic changes are: the decline in female fertility and recorded high life expectancy. The previous fertility and mortality trends have led to a young population in developing world and an increasing older population in developing world (Bongaart, 2009). The demographic transition is occurring in Pakistan, with fertility rate showing decline trend, whereby it's increasing the ratio of working age group thus decreasing the dependency ratio in the coming years. But for this to occur there is need for investment in health and education. Thus, there is a need of making policies for our youth regarding investment in health, education, and such steps should be taken to improve the labour market information system, inducing the people to increase savings which are a pre-requisite for increased investment. Elderly people should be provided with old aged benefits regarding health and social security (Nayab, 2006).

Currently Japan has achieved the lowest infant mortality and longest life expectancy in the world. Japan's demographic transition can be roughly divided into three stages: the stage of high fertility and mortality (up to 1870), the stage of high fertility but low mortality (1870 – 1960), and a stage of low fertility and low mortality (1960 – present). The reason for low mortality is access to modern medicine and public health, improvement in living standards and nutrition, and application of sanitation (JICA, 2003). The trends of Germany population are reflecting that in 2060, every third person will be over 65 years. In coming 50 years every 7th will be over 80 years. The elders are the fastest emerging portion of German population. Four out of five people over 85 years need intensive care. It is also observed that mostly old women are in needing care. Maltreatment of elder people is a social problem which has often remains undetected. As the number of these old people will increase, they will be overburdened and will result in future inhuman tragedies (Mahler, 2014).

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Indian rural society's characterized by customary systems like caste, family, kinship etc. all these characteristics encourage living together in neighborhood. This living mutually helped the young and the old people to lead and enjoy happy life with completion of all desires. The knowledge of elderly helps their young generation to settle disputes and conflicts. They engaged themselves in socio-religious activities and felt busy in life. Sometimes, aged feels themselves helpless and useless in their family and community. Psychological problems are also common among elder one. The loss of occupation is main cause for psychological depression in the minds of some people. Because of physical problems elder people face the social problems. In old age they reduce to participate in social activities and contacts. Economic incapability also brings many problems among old people. They depend on their children and family members (Bagari & Tamaraguni, 2014).

In America and Western nations, the population of elderly people is expending and will continue to rise into the 21st century. The important health goal is that elderly might spend their lives healthy and independently. Nowadays, epidemiologist are focusing on how to improve functional abilities and reduce disabilities. Study has shown that elderly people's heath is influenced by neighboring and community environment. The good social contacts and home environment have positive effect on the health and well-being of elderly persons (Balfour & Kaplan, 2002). Multinomial logistic regression model was used to investigate relationship b/w health condition of elderly people and social economic Factors which were associated with it. It is observed that the health problems in the elderly persons of New South Wales were: low Standard of education, increasing age, low income, not being able to travel independently and no health insurance. Moreover, females face all these problems more than their male counterparts. It is suggested to provide free of cost and easily accessible health care facilities to elderly people (Ringland et al., 2004)

Aims and Objectives

The present research study has following aims and objectives.

i) To study the association between different socio-economic factors affecting elderly aged people.
ii) To compare socio-economic status of old aged people, gender wise.
iii) To study the impact of socio-economic status affecting the elderly aged people.

Methodology

This chapter includes research methodology and statistical techniques used for achieving the stated objectives. It includes the study area of the research, sample selection procedure, estimation of sample size, schedule formulation and methods of statistical analysis.

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Study Area

This study comprised of all old aged persons of age 60+ in district Swabi, which is one of the 25 districts of Khyber Pakhtunkhwa. Swabi district occupies the south and southwest part of Peshawar. Its occupied by 1,026,804 individuals (PBS, 1998). The Indus River borders the south and southeast while the west is separated by Mardan and Nowshera district. The main clan of the area is Yousafzai and about 96% people speak Pashto (Khan & Munir, 2010).

Sample Selection

As the elderly aged people was not as simple as to identify and not possible to construct sampling frame, therefore non-probability sampling technique like convenience sampling technique used to select the sample of elderly aged people. A sample of 300 elderly aged respondents were interviewed for this research. The sample comprised the elderly aged male and female peoples having age 60+. In certain cases elderly people were very hard to reach, especially in case of female respondent and the elderly respondents who were very ailing and weak.

Interviewing Schedule

In underlying study, the interview schedule is used for the data collection. As the population of the old aged people found dispersed in the district Swabi, due to which it seemed more appropriate to construct schedule compare to other tools of data collection. The basic aim in constructing the schedule is to get more accurate and precise information. Since many of the old persons were illiterate or less educated and some got eye sight problem so direct interview was necessary.

Pre- Testing

After construct the schedule interview as data collection instrument, it was tested and irrelevant questions were dropped and some other relevant questions were added. The pre testing was carried out in the village of the researcher. Before finalizing questions were checked again and again, irrelevant questions were deleted and new questions relevant to the problem were added. Language of few questions was also modified. To pre-test the data collection instrument, a sample of 40 respondents were interviewed in the initial and changes were made in the instrument.

Reliability Test

As the data collection instrument was developed by research for the stated objectives, therefore it was necessary to check its reliability. To check the reliability and validity of the data collection instrument, a reliability test was performed. To check the reliability of the instrument and the validity of the items if the data collection tool, a Cronbach α test of reliability was performed. The

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result of the reliability test found 0.639, indicating the instrument as reliable for the data collection from the old aged people of the district Swabi.

Statistical Analysis

The data thus collected from the field is summarized by presenting it in the form of simple bar charts, multiple bar charts and pie charts. The cross-sectional tables and graphs are used to produce data in more understandable form. Multinomial logistic regression model, chi-square and odds ratio is also used to achieve the study objectives.

Tabulation and Graphical Presentation

Tabulation is the process of presenting data in systematic form. In this process the data is classified or categorized into rows and columns. The row represents the possible categories of the variable while the columns represents the frequencies of each category respectively. In graphical presentation, numerical value of variable or relationships among the variables are shown in pictorial form or the visual display of statistical data in the form of areas and points. Graph is a representation of statistical data by a continuous curve, usually shown on a graph paper. Graphs present the data in a simple, clear and effective manner, facilities comparison between two or more than two statistical series. Graph provides an overall picture of statistical series.

Descriptive/Summary Statistics

Some measures that are commonly used to describe a data set are central tendency and measures of variability or dispersion. Measures of central tendency include the mean, median and mode, while measures of variability include the standard deviation or variance (Chaudhry & Kamal, 2009).

Cross tab/ Cross tabulation

Cross tabulation is a statistical process that summaries categorical data in contingency table and it is a tool which helps to compare two variables. Cross tabulations enable to examine relationships within the data that might not be clearly obvious when analyzing total survey responses (Reid, 2013).

Chi-Square test

The chi-square test, often known as Pearson's chi-square was introduced by Karl Pearson in 1900s. Chi-square is a statistical test normally used to compare observed data with data we would expect to find according to hypothesis, where the data are categorized in contingency table. The chi-square test of association is applied when there are two categorical variables from a single population and it is used to determine whether there is a significant association between the two categorical variables (Agresti, 2002).

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The standard Pearson chi-square statistic is defined as

$\chi^2 = \sum_{i=1}^{n} \sum_{j=1}^{m} \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$

With ν = (c-1) (r-1) degree of freedom

O_{ij} = Observed frequency of the ijth cell

E_{ij} = Expected frequency of the ij th cell.

The null and alternative hypothesis is following;

H_0: there is no association between two criteria of classification.

H_1: there is association between two criteria of classification.

We reject the null hypothesis if the calculated P-value is less than the level of significance with ν = (r-1)*(c-1) and conclude that there is association between two criteria of classification, otherwise accept the null hypothesis for the same level of significance and conclude that two criteria of classification are independent.

Odds Ratio

An odds ratio (OR) is used as a measure of association between an exposure and an outcome. The OR tells that odds of an outcome will occur given a particular exposure, compared to the odds of the outcome occurring in the absence of that exposure. Odds ratios is commonly used in case-control studies, however it can also be used in cross-sectional and cohort study designs as well (Szumilas,2010).

Odds Ratio = $\frac{a/c}{b/d} = \frac{ad}{bc}$

Where

a = Number of exposed cases

b = Number of exposed non-cases

c = Number of unexposed cases

d = Number of unexposed non-cases

The odds ratio can be in between 0 to ∞.

Multinomial Logistic Regression Model

Let Y be the categorical response variable with more than two categories. Let J be the number of response categories and q be the number of independent variables, $X_1, X_2, X_3, \ldots\ldots X_q$, each having n observations than multinomial logistic regression model is given by:

$\log \frac{P(Y=j|X)}{P(Y=J|X)} = \alpha_j + \beta_{j1}X_1 + \beta_{j2}X_2 + \cdots \ldots\ldots\ldots\ldots\ldots + \beta_{jq}X_q$ For j= 1, 2, ..., J-1

Where j is selected as the reference category (Agresti, 2002).

Data Analysis

This chapter contains the statistical analysis regarding the social and economic factors affecting elder aged people of district Swabi. Survey method is adopted

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and a total of 300 scheduled are designed to collect data from different villages of district Swabi. For descriptive statistics frequency distribution and bar charts are used where as to find association between different socio-economic variables influencing the elderly people chi-square and odd ratio is used. To analyze categorical data multinomial logistic regression model is employed.

Table-1 indicates the age distribution of old age people at District Swabi. It is obvious from the table that 99 people are in the age group 60-64 with a percentage of 33 out of total 300 respondents. 68(22.7%) respondents are from 65-69 age group, 67(22.3) are from 70-74 age group, 29(9.7%) are from 75-79 age group, 25(8.3%) are from 80-84 age group and only 12(4%) are above 84 years.

Table 1: Frequency distribution of "Age of the respondent"

Ages	Frequency	Percent
60-64	99	33.0
65-69	68	22.7
70-74	67	22.3
75-79	29	9.7
80-84	25	8.3
Above	12	4.0
Total	300	100.0

Table -2 shows that frequency of married couples is 197(65.7%) in sample of 300 elderly people. The frequency of widowed and widower are respectively 63(21%) and 32(32%). However there are only 7(2.3%) cases of unmarried and only one case of divorce, indicating a very small amount of divorce cases in sample.

Table 2: Frequency distribution of "Marital status of the respondent"

Status	Frequency	Percent
Married	197	65.7
Unmarried	7	2.3
Widow	63	21.0
Widower	32	10.7
Divorce	1	.3
Total	300	100.0

Table-3 indicates that most of the respondents in sample have children between 4 and 6 i.e. 153(51%). Elderly people having more than 7 children are 98(32.7%),

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36(12%) respondents have children between 1 and 3 and there are only 13(4.3%) respondents who have no children.

Table -3: Frequency distribution of Number of children

Children	Frequency	Percent
No	13	4.3
1-3	36	12.0
4-6	153	51.0
7-above	98	32.7
Total	300	100.0

Table-4 shows the education status of the respondents, most of the respondents' i.e. 130 (43.3%) out of 300 are illiterate. There are 63(21%) matriculates and 57(19%) are primary. 32(10.7%) of the respondents have got education up to F.A/ F.Sc. and only 18(6%) have got education above higher secondary level.

Table 4: Frequency distribution of Education of Respondent

Education	Frequency	Percent
illiterate	130	43.3
primary	57	19.0
metric	63	21.0
F.A /F.Sc	32	10.7
above	18	6.0
Total	300	100.0

Table-5 shows frequency distribution of the diseases faced by elderly people at Swabi. The most common disease in sample is Joint Pain 72(24%) among 300 respondent. 64 (21.3%) face High Blood Pressure problem, 50(16.75%) face Diabetes, 45 (15%) of respondents have Heart problem, 24 (8%) have vision problem, 13 (4.3%) have other diseases, there are the patients having combination of the diseases mentioned above and 32 (10.7%) of respondents have no disease.

Table 5: Frequency distribution of diseases faced by the respondent

Diseases	Frequency	Percent
Hearts Problem	45	15.0
Diabetes	50	16.7

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Joint Pain	72	24.0
High Blood Pressure	64	21.3
Vision Problem	24	8.0
Other Diseases	13	4.3
Nothing	32	10.7
Total	300	100.0

Table-6 shows the frequency distribution of family income of the elderly persons. There are 38(12.7%) persons whose income is below Rs. 15,000 of total 300 respondents. 144(48%) elderly have family income Rs.15,000-50,000 and 93(31%) respondents have Rs.50,000- 100,000. However the respondents whose family income is above 100,000 are only 25, comprising 8.3 percent.

Table 6: Frequency distribution of Family income

Income	Frequency	Percent
Below Rs15,000	38	12.7
15,000-50,000	144	48.0
50,000-100,000	93	31.0
100,000-and above	25	8.3
Total	300	100.0

Table -7 reveals the frequency distribution about the satisfaction with the medical facilities provided to respondents. In the total of 300 respondents only 95 (31.7%) are satisfied with the medical facilities provided to them whereas 205(68.3%) are not satisfied.

Table 7: Frequency distribution of Satisfaction with Medical facilities

Satisfaction	Frequency	Percent
Yes	95	31.7
No	205	68.3
Total	300	100.0

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Test For Association

For testing association between different socio-economic factors χ^2 test was perforemd. The following table -8 indicates the output of chi-square test for education and income level of the respondent

Table 8: Cross Table between education and family income

Education	Family Income				Total
	below 15,000	15,000-50,000	50,000-100,000	100,000- and above	
Illiterate	34	62	25	9	130
Primary	4	32	15	6	57
Metric	0	36	24	3	63
F.A / F.Sc	0	10	19	3	32
above	0	4	10	4	18
Total	38	144	93	25	300

Table -8 shows the cross sectional study of different levels of family income and education attainment of 300 elderly individuals at district Swabi. It is clear that the number of illiterate elderly people are 130, where as there are only 18 respondents whose education level is above secondry level. There are 144 elderly persons in the family income group 15,000-50,000, where as there are only 25 respondents in the family income group 100,000 and above. The number of matriculates is higest in the family income group 15,000-50,000 where as there is no matriculate in the family income group below 15,000 in total of 63. The F.A / F.Sc education level highly prevail in the family income group 50,000- 100,000 and it is lowest i.e. zero in the family income group below 15,000. Overview of this table indicates that literacy is more common in the rich class as compared to low income class.

Table 9: Chi-Square Test for Education verses Family Income

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	65.527	12	.000
No. of Valid Cases	300		

Table-9 reveals that the p-value (0.000 < 0.05) of chi-square shows that education attainment strongly depends upon income of the families. In other words we can say that education and income level is highly associated with each other.

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Table 10 Cross table of Education and Source of Income

Education	Source of income					Total
	Pension	Farming	Business/Property	Children	Dependent	
Illiterate	13	46	22	28	21	130
Primary	2	19	23	13	0	57
Metric	18	17	22	6	0	63
F.A/ F.Sc	20	5	6	1	0	32
above	9	2	7	0	0	18
Total	62	89	80	48	21	300

Table-10 reveals the cross table between education and sources of income of the respondents. It is obvious that 89 respondents are attached to farming occupation whereas 62 are pensioners and 21 among them depend on other people for financial support. There are 80 businessmen out of total 300 respondents. The primary educated old people mostly depend on business, whereas the individual whose educational level is F.A / F.Sc highly depend on pension. All the literate people are attached to any alternate source of income and don't depend on other people for their financial support.

Table 11 Chi-Square test for Education and Source of Income

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	109.284	16	.000
No of Valid Cases	300		

Table -12 shows that the p-value value (0.000 < 0.05) indicates that there is strong association between educational level and source of income of the respondent.

Table 12 Cross table between Gender and Education

Gender	Education					Total
	Illiterate	Primary	Metric	F.A/F.Sc	Above	
Male	38	26	46	29	17	156

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	Female	92	31	17	3	1	144
Total		130	57	63	32	18	300

The Table-12 indicates the cross tabulation between gender and education of the old aged people at district Swabi. The table reveals that, there are 92 old women out of total 130 illiterate people. There are only 3 females whose educational level is F.A or F.Sc where as there are 29 males for the same educational level. In higher education there is only one woman showing the worst counts for females. Overall view of the table is that elderly females are far less educated than elderly males and they are deprived of the basic education.

Table 13: Chi-Square test for Gender verses Education

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	71.200	4	.000
N of Valid Cases	300		

The above table -13 indicates the output of the Chi-Square test of association and reveals that the p-value (0.000 < 0.05) indicates that there is strong association between educational level and gender of the respondent.

Table 14: Cross Table between meet your friends and Satisfaction in life

	Are you satisfied with your life?			
Meet With Friends	not at all	to some extent	to great extent	Total
Seldom	9	15	9	33
Sometimes	11	90	77	178
Often	10	27	52	89
Total	30	132	138	300

Table-14 indicates the count for the persons who meet their friends and relatives and are satisfied with their life. There are 33 old aged people in the total of 300 who are seldom satisfied in their lives. However there are 138 persons who are satisfied to great extent in their lives and often meet their friends in total of 300. It is evident from the table that good relation with friends and relatives increases satisfaction in life. By applying chi-square test of association, it is observed that there is close relationship between satisfaction in life and election with friends and relatives as p value (.000<.05).

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Table15: Cross Table between Working Status and Health Condition

Working Status	Health condition:			
	Bad	Not bad	Good	Total
Yes	15	122	31	168
No	49	72	11	132
Total	64	194	42	300

The above table 15 reveals cross tabulation between health condition and status of working after age of 60 years. The table reveals that among 300 respondents, 168 old aged people are still working. It is found that there are 194 old aged individuals whose health condition is not bad and 122 of them are still working in old age. 64 out of 300 individuals having bad age condition with 15 of them are still working, whereas 49 are not working

The above table 16 shows the results of the chi-square test of association between health condition and the working status. The output indicates that as p-value is less then i.e. (0.000 < .05), so there found a close association between health condition of a person and working status.

Table 16: Chi-Square Test for health condition verses working status

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	36.681	2	.000
N of Valid Cases	300		

Table 4.17: Cross Tabulation between Gender and Health Cost

		Who manages your healthcare costs?				
		Sons	Spouse	Other relative	Self	Total
gender	Male	58	1	7	90	156
	Female	93	22	19	10	144
	Total	151	23	26	100	300

The above table-17 shows a cross table of gender of the old aged people with the management of their health cost. The table shows that healthcare cost of elderly people is mostly bore by their young sons i.e. 151 in total of 300 elderly people. 93 elderly women depend on their sons for their healthcare costs. 90 of total 156

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elderly men manage their own health cost whereas 58 of elderly males depend on male children. It is clear from the table the healthcare cost is mainly bore by male children of the family however elderly male mostly bear their own healthcare cost.

Table 18: Cross Tabulation between respect by children and satisfaction in life

Respect from Children	Satisfaction in Life			
	not at all	to some extent	to great extent	Total
Often	17	91	132	240
Sometimes	6	36	4	46
Seldom	7	5	2	14
Total	30	132	138	300

The above table -18 demonstrates a cross tabulation between the respect from children and the satisfaction in life. There are 138 respondents who are satisfied to great extent in life and 132 among them are often respected by their children. The count for not satisfied with life is 30 out of 300 and 7 of them get seldom respect from their children. The overview of the table is that maximum numbers of elders are respected by their children.

Odds Ratio Analysis

In this section, odds ratio computed among the several variables for studying the strength of the relationship. Odds ratio computed between the variables which are categorical in nature and specifically having two categories.

The Table -19 shows the gender wise satisfaction from the medical facilities. Only 95 out of 300 are satisfied with the medical facilities where as 205 are not satisfied. The value of OR found 2.536 with a 95% confidence interval ranging from 1.523 to 4.221. The result of OR implies that the odds for males who are satisfied with medical facilities are 2.536 times higher than females who are not satisfied with medical facilities.

Table 4.19: Contingency table for medical facilities gender

Gender	Medical Facilities	Total

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	Yes	No	
Male	64	92	156
Female	31	113	144
Total	95	205	300

The table -20 shows the gender wise isolation of the old aged people. It is obvious that 198 out of 300 respondents don't feel isolation whereas 102 of elderly feels isolation. The value of OR found 0.335 with a 95% C.I ranging from 0.216 to 0.582, showing that the odds for males feeling isolation is less than females, in other way the odds for females feeling isolation is 1/ .355= 2.8 times higher than males who feel isolation.

Table 20: Contingency table for Isolation and Gender

	Do you feel isolation?		
	Yes	No	Total
Male	36	120	156
Female	66	78	144
Total	102	198	300

The above table 21 reveals gender wise literacy level. It shows that are 170 literate out of 300. Moreover, there are only 52 literate in total of 144 females. The value of OR (5.4939 with a 95% C.I ranging from 3.334 to 9.0515) shows that males 5.49 times more literate than females.

Table 21: Contingency table for Gender verses Literacy

	Education		
	Literate	Illiterate	Total
male	118	38	156
female	52	92	144
Total	170	130	300

Multinomial Logistic Regression Analysis

Multinomial logistic regression model was fitted to the data to assess the socio-economic influences on elderly people. Satisfaction of elderly people was selected

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as base line category. Five variables were found to be significant and were included in the final model. The insignificant variables were removed from the full model. The important results regarding the analysis of the research is given below.

Table 22: Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept only	659.167			
Final	394.222	264.945	36	.000

In the table-22, the term intercept only indicates that model does not include any explanatory variable to predict the response variable. Final model includes explanatory variables in the model. The log likelihood when no explanatory variable is added in the model is 659.167 and when explanatory variable are added to the model, likelihood becomes 394.222. The value of Chi-square statistic 264.945 with degree of freedom is 36 and p-value (0.000 less than 5%) shows that there is a statistically significant relationship between explanatory variables (source of income, family income, diseases, advice and respect) and response variable (satisfaction of elderly). The results show that the final model has improved as compared to intercept only and this can significantly predict the response variable i.e. satisfaction level of elderly people.

The above table-23 shows the results of goodness of fit. The table contains two measures that are used to assess how well the model fits the data. The first column contains the term Pearson which means Pearson chi- square statistics. The large value of Pearson chi-square indicates that model fits the data well. P-value is 0.432 which is not statistically significant as p-value is greater than 0.05. Hence it shows that model fits the data well. The Deviance chi-square statistics also give p-value greater than 0.05. The above table shows that the model fits the data well.

Table 23: Goodness-Of-Fit Model

	Chi-Square	df	Sig.
Pearson	555.057	550	.432
Deviance	394.222	550	.899

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The table -24 shows the Pseudo R-Square which is used for assessing predictive strength of logistic regression model. Mc Fadden Pseudo R-Square ranging from 0.2 to 0.4 indicates very good model fit. All these values show that model predicts the response variable well however these figures can't be relied upon.

Table 24: Pseudo R-Square

Cox and Snell	.587
Nagelkerke	.660
McFadden	.402

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In Table -25, column "Model Fitting Criteria" shows -2 Log Likelihood of reduced model. The log likelihood ratio test of the variables i.e. family income (it includes income of the whole family), advice (advice from the elders), respect (respect given to the elders), diseases (faced by elderly) and sources of income (includes income sources of elderly) shows that they have significant contribution to social and economic influences on elder people. P-value for these entire variables is less than 0.05. The above outcomes show that these five variables have significant effect on social and economic life of elder people.

Table 25: Likelihood Ratio Test Stepwise Summary

Model	Action	Effect(s)	Model Fitting Criteria	Likelihood Ratio Tests		
			-2 Log Likelihood	Chi-Square	df	Sig.
0	Entered	<null>	659.167	.		
1	Entered	Family Income	503.159	156.008	8	.000
2	Entered	Advice	461.937	41.222	4	.000
3	Entered	Respect	441.994	19.943	4	.001
4	Entered	Diseases	413.711	28.283	12	.005
5	Entered	Income	394.222	19.489	8	.012

Identifying the Statistically Significant Predictor Variables

Method of forward entry was used for selection of parsimonious model and variables shown in Appendix-II were found as significant and they were included in the final model. The important feature of multinomial regression model estimates k-1 models, where k is the number of categories of response variable. We have three categories of response variable so there will be two models. The coefficient of each equation is shown in column labeled as B. The column labeled Exp (B) contains odds ratio for each explanatory variable. The last column contains the 95% C.I for Exp (B). Five significant variables have various categories. The variable advice has three, a source of income has five, family income has four, diseases has seven and respect has three categories respectively. The first response category is 'unhappy' which is compared with baseline category 'happy'. The first significant variable 'advice' has three categories and the last category i.e. seldom is used as reference category.

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Results from Appendix II show OR= 0.084 which means that the elders whose advices are obeyed often are 0.084 times less likely to be unhappy compare to the elders whose advices are seldom obeyed (OR = 0.084, CI. 0.014 to 0.521, p-value = .008). Conversely, elderly whose advices are seldom obeyed are 11.9 times more likely to be unhappy compare to the elders whose advices are often obeyed. An OR=.206 (CI .036-1.160, p-value =.073) indicates that elders whose advices are sometimes obeyed are 0.206 times less likely to be unhappy in life compare to those whose advices are seldom obeyed. Conversely, elders whose advices are seldom obeyed are 4.8 times more likely to be unhappy compare to those elders whose advices are obeyed sometimes.

It is clear from the table that odds ratio for source of income in unhappy is 0.161 which shows old aged people whose source of income as pension is 0.161 times less likely to be unhappy compare to those who depend on other. In other words the elders who depend on other people are 6.2 times more likely to be unhappy than those elderly persons whose source of income is pension. For different sources of income of elderly are (OR= 2.382) for farming, (OR = 4.213) for business and (OR = 5.92) for children. All these OR values are greater than 1 which indicates that elders whose source of income is farming is 2.382 times more likely to be unhappy compare to those who depend on others. Similarly elders whose income depends on business and children are 4.213and 5.92 times more likely to be unhappy compare to those who depend on other.

The OR for family income below 15,000 is 41.701 which reveals that elderly people whose income is below15, 000 are 42 times more likely to be unhappy compare to those whose family income is one lac or above one lac. Similarly OR = 0.884 and OR=0.696 shows that elderly whose family income is between 15,000 -50,000 and 50,000- 100,000 are 0.884 and 0.696 times less likely to be unhappy compare to those elders whose family income is one lac or above one lac.

The Odds Ratio for various diseases are heart problems (OR=9.45), joints pain (OR=3.024), high blood pressure (OR=4.254) and other chronic diseases (OR=3.97). These Odds Ratios show that the elders who are heart patients are 9.45, joint pain 3.024, high blood pressure 4.254 and other chronic diseases are 4 times more likely to be unhappy compare to those who do not face any disease.

The results show that elders who are often respected by their children are 0.052 times less likely to be unhappy compare to those who are seldom respected. Conversely, elderly people who are seldom respected are 19 times more likely to be unhappy compare to those who are often respected. OR =0.624 shows that elders who are sometimes respected are 0.624 times less likely to be unhappy compare to those who are seldom respected. Conversely we say that elderly who are seldom respected are 1.6 times more likely to be unhappy compare to those who are sometimes respected.

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Interpretation of "Not too happy" in various groups

The 'Not too happy' is the second response category which is to be compared with baseline category 'happy'. The variable 'advice' has three categories and the last category is used as reference category.

The Appendix II shows that odds ratio for advice often obeyed (advice=1) in not too happy is 0.326, which shows that elders whose advices are obeyed often are 0.326 times less likely to be not too happy compared to those whose advices are seldom obeyed. Conversely, the elders whose advices are seldom obeyed are 3 times more likely to be not too happy compared to those whose advices are often obeyed. (OR=1.003, CI 0.023-4.634, p-value =0.966) indicates that the OR is approximately equal to one which shows that elders whose advices are sometimes obeyed and seldom obeyed have same likelihood of not too happy.

The results indicate that elders whose source of income as pension is 1.62 times more likely to be not too happy compared to those who depends on other people. OR for different sources of income of elderly are (OR= 4.44) for farming, (OR = 4.096) for business and (OR = 7.161) for children. All these OR values are greater than 1 which indicates that elders whose source of income as farming is 4.44 times more likely to be not too happy compared to those who depend on others. Similarly elders whose income depends on business and children are 4.1and 7.161 times more likely to be not too happy compared to those who depend on other.

The elderly facing heart problems are 4.36 times more likely to be no too happy (OR= 4.36) compare to those who are healthy. Odds ratio for diabetes (OR=4.21), joints pain (OR=8.5), high blood pressure (OR=8.2), vision problem (OR=3.14) and other chronic diseases (OR=3.39) indicates that elderly facing diabetes is 4 times, joint pain 8.5 times, high blood pressure 8.2 times, vision problem 3 times and other chronic diseases 3.4 times more likely to be not too happy compare to those who are healthy.

It is obvious from results that odds ratio for below Rs 15,000 income is 56.931 which shows that elders with family income of less than Rs 15,000 is 57 time more likely to be not too happy compare to those whose income is more than one lac. OR = 6.02 and OR=2.027 shows that elderly whose family income is between 15,000 -50,000 and 50,000- 100,000 are 6 and 2 times more likely to be not too happy compare to those elders whose family income is above one lac.

The elders who are often respected by their children are 0.188 times less likely to be not too happy compared to those who are seldom respected. Conversely, elderly people who are seldom respected are 5 times more likely to be not too happy compare to those who are often respected. OR = 2.885 shows that elders who are sometimes respected are approximately 3 times more likely to be not too happy compare to those who are seldom respected.

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Summary

Older people consist of persons who have nearly passed the average span of human life. In traditional Pashtoon society, joint family system has played a vital role in safeguarding the socio- economic life of elderly. However, in recent year's changes in social life and trend towards unclear family in Pashtoon society, elders are likely to face social, emotional, physical and economics problems in times to come. The present survey was conducted to study the socio-economic issues effecting elderly in order to cope with the problems of elderly people in years to come. To fulfill the task a total of 300 schedule questionnaire were designed, 156 male and 144 female were interviewed from different villages of Swabi. Data was collected from elder people whose ages were 60 and above.

SPSS package was used to analyze data. Since social and economic problems can be categorised into various groups, multinomial logistic regression was used. The response variable satisfaction of elderly in life was divided into three categories, to great extent, to some extent and not at all. Important explanatory variable include age, sex, marital status, no. of children, source of income, housing, family income, working, health cost, diet, health condition, diseases, medicines, addiction, advice and respect.

As response variable was categorical in nature so multinomial logistic regression was fitted to the data and satisfaction of elderly was used as baseline category. Stepwise forward entry procedure was used to get parsimonious model. Stepwise forward entry procedure selects only significant variables and includes in the model. Family income, advice, respect, diseases and source of income were found as significant variables and were included in the model.From the results observed that family income proved to be significant variable effecting the old age (Chi Square= 156.008, df = 8 and p-value = 0.000). Indeed family income determines ones position in family and society.

It was observed that there was strong association between education attainment and family income (Pearson chi square = 65.527, df = 12, and p-value = 0.000). In total of 38 people whose income was below Rs.15000 it was found that 34 were illiterate. Strong association was also found between sex and education. Gender discrimination prevailed in education as among total 130 illiterate elderly 92(71%) were females and 38(29%) were male. It was also found in our study that older men are more likely to be married as their female counter parts. In our traditional Pashtoon society men have more chances to remarry compare to women. In our study out of 300 respondents 63 (21%) were widow and only 32 (10.7%) were widower. Data regarding to feeling of isolation among male and female it was revealed that out of 144 females 66 (46%) feel isolation whereas in total of 156 male only 36 (23%) feels isolation. Deaths of spouse in

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late ages were responsible for isolation in elderly male and female. Question regarding to health problems of elderly, it was revealed that 89.3% were facing different diseases (heart problem, diabetes, joint pain, high B.P, vision problems and other chronic diseases) where as only about 10.7% are healthy. Furthermore the most common disease is joint pain which prevail about 24% among elderly people.

The odds ratio for advices obeyed shows that those elders whose advices are seldom obeyed prone to be 11.9 times more unhappy compared to those whose advices are obeyed often. Similarly the elders who are less respected are 19 times more unhappy than those who are respected. The odds ratio when calculated for different diseases indicates that elders with joint pain have increased unhappiness 9.45 times more as compare to healthy elders. Elders suffering from geriatric diseases like heart problems, high blood pressure and other chronic diseases had increased unhappiness in their lives. Moreover the elders whose income is below Rs.15,000 are likely to be 42 times more unhappy than those whose income is more than one lac.

Conclusion

On the bases of our study following conclusions are drown.

1) Study shows that only 10.7 % of elderly persons are healthy whereas remaining 89.3% are facing different diseases.
2) Joint pain is the most common disease. 24% of elderly are suffering from joint pain. High blood pressure, diabetes and heart related problems are other commonly observed diseases.
3) Most of elderly females are deprived of basic education. 92 out of 144 are illiterate and 31 have only primary education and only one have secured education above higher secondary level.
4) No. of females feeling isolated is also very high compared to their male counterparts.
5) Study show association between satisfaction and relations with friend and relatives. The more elders are closed to their friends and relatives the more they are satisfied in life.
6) Study shows that more than 50%, 151 out of 300 elders depend on their sons for healthcare cost whereas 100 (33%) don't depend on anyone.
7) Data regards to working in old age show that 168 (56%) out of 300 are working and 15 (5%) among them are in bad health condition.
8) Only 30 out 300 of are not satisfied with their life. However 90% of elders are satisfied with their life.

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APPENDIX-I

Questionnaire for Social and Economic Influence on Elderly People in Swabi, Khyber Pakhtunkhwa

Note: This questionnaire should be filled by person of aged 60 and above. You are requested kindly fill the following questions in order to get information for my research studies. Your information will be treated only for research purpose. You may tick( )any one of the following options. Select only the most suitable option.

Personal information:

Name_____ . Village name _____.

Demographic Factors

1. Sex: a) Male ---------- b) Female ----------.
2. Age : a) 60-64 (b) 65-69 (c) 70-74 (d)75-79 (e)80 -84 (f) 85 and above
3. Marital status: (a) Married (b) unmarried (c) Widowed (d) Widower (e) Divorced
4. How many children you have? (a) No children (b) 1-3 (c) 4-6 (d) 7- and above
5. Marital status of children : (a) All children married_____

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(b) Not all children unmarried_____

Economic Factors

6. What is your main source of income? (a) Pension (b) Farming (c) Business / Property (d) Children (e) Depend on others

7. Housing: (a) Living in your own house (b) Rented (c) Close ended.

8. Family income: (a) Below Rs. 15,000 (b) Rs.15,000-50,000 (c) Rs. 50,000-100,000 (d) Rs.100,000 and above.

9. Are you still working: (a) Yes (b) No.

10. If yes than why are you still working?

(a) To fulfill your own expenditures

(b) To support your family

(c) To remain active and busy.

11 . Who manages your healthcare costs? : (a) Sons (b)Spouse (c) Other relative (d) Self

Health Factors

12. The diet you take is : (a) Poor (b) Normal (c) Good

13.Health condition: (a) Bad (b) Not bad (c) Good.

14.Are you suffering from any of following diseases: (a) Heart problem (b) Diabetes (c) Joint pain (d) High Blood Pressure (e) Vision problem (f) Chronic diseases (g) No disease

15. Do you take medicines regularly: (a) Yes (b) No.

16. Are you satisfied with the medical facilities provided by the Govt.? (a) Yes (b) No

17. Are you addict to: (a) Cigarette (b) Naswar (c) Charse / Afeem (d) Nothing.

Social Factors

18. Education: (a) Illiterate (b) Primary (c) Matriculation (d) F.A/F.SC (e) Above.

19. You are living with: (a) Sons (b) Daughter (c) Other relative (d) Independent (e) Alone.

20. If you are ill than who take care of you? : (a) Sons (b) Daughter (c)Spouse (d) Other relative (e) No one.

21. Do you participate in following activities? (a) Political activities (b) Social activities (c) Religious activities (d) Non participation

22. How you spent your leisure? : (a) Resting (b) Reading (c) Watching T.V /Radio (e) visiting friends.

23. Do you feel isolation? : (a) Often (b) Sometimes (c) Seldom

24. How often you meet your friends and family relatives? : (a) Often (b) Sometimes (c) Seldom.

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25. Do your children take your advice regarding different matters? : (a) Often (b) Sometimes (c) Seldom

26. Do your children respect you? : (a) Often (b) Sometimes (c) Seldom.

27. Are you satisfied with your life?

(a) To great extent (b) To some extent (c) Not at all.

APPENDIX-II

Table 4.26: Parameter Estimation

Are you satisfied with your life?[a]		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
Unhappy	Intercept	0.486	2.082	0.054	1	0.816			
	[Advice=1]	-2.472	0.928	7.093	1	0.008	0.084	0.014	0.521
	[Advice=2]	-1.581	0.883	3.21	1	0.073	0.206	0.036	1.16
	[Advice=3]	0[b]			0				
	[source of income=1]	-1.825	1.721	1.125	1	0.289	0.161	0.006	4.699
	[source of income=2]	0.868	1.29	0.453	1	0.501	2.382	0.19	29.873
	[source of income=3]	1.438	1.386	1.077	1	0.299	4.213	0.279	63.709
	[source of income=4]	1.778	1.394	1.627	1	0.202	5.92	0.385	91.048
	[source of income=5]	0[b]			0				
	[F.Income=1]	3.731	1.401	7.089	1	0.008	41.701	2.676	649.84
	[F.Income=2]	-0.123	0.989	0.015	1	0.901	0.884	0.127	6.143
	[F.Income=3]	-0.363	0.992	0.134	1	0.715	0.696	0.1	4.862

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	[F.Income=4]	0[b]			0				
	[Diseases=1]	2.246	1.005	4.997	1	0.025	9.45	1.319	67.719
	[Diseases=2]	-0.395	1.369	0.083	1	0.773	0.673	0.046	9.851
	[Diseases=3]	1.106	1.041	1.13	1	0.288	3.024	0.393	23.259
	[Diseases=4]	1.448	1.031	1.972	1	0.16	4.254	0.564	32.102
	[Diseases=5]	-18.429	0		1	0.288	0.673	0.393	9.851
	[Diseases=6]	1.379	1.382	0.995	1	0.319	3.97	0.264	59.627
	[Diseases=7]	0[b]			0				
	[Respect=1]	-2.956	1.188	6.198	1	0.013	0.052	0.005	0.533
	[Respect=2]	-0.471	1.378	0.117	1	0.732	0.624	0.042	9.295
	[Respect=3]	0[b]			0				
NOT TOO HAPPY	Intercept	-2.527	1.636	2.385	1	0.123			
	[Advice=1]	-1.12	0.768	2.125	1	0.145	0.326	0.072	1.471
	[Advice=2]	0.033	0.766	0.002	1	0.966	1.033	0.23	4.634
	[Advice=3]	0[b]			0				
	[source of income=1]	0.481	1.151	0.175	1	0.676	1.618	0.169	15.444
	[source of income=2]	1.492	1.123	1.764	1	0.184	4.444	0.492	40.167
	[source of income=3]	1.41	1.159	1.481	1	0.224	4.096	0.423	39.688
	[source of income=4]	1.969	1.16	2.88	1	0.09	7.161	0.737	69.579
	[source of income=5]	0[b]			0				

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[F.Income=1]	4.042	1.159	12.16	1	0	56.931	5.871	552.04
[F.Income=2]	1.795	0.666	7.271	1	0.007	6.02	1.633	22.196
[F.Income=3]	0.706	0.681	1.076	1	0.299	2.027	0.534	7.698
[F.Income=4]	0[b]			0				
[Diseases=1]	1.473	0.663	4.937	1	0.026	4.361	1.19	15.986
[Diseases=2]	1.437	0.643	4.997	1	0.025	4.207	1.194	14.826
[Diseases=3]	2.142	0.617	12.062	1	0.001	8.513	2.542	28.505
[Diseases=4]	2.102	0.626	11.289	1	0.001	8.181	2.401	27.881
[Diseases=5]	1.145	0.754	2.307	1	0.129	3.142	0.717	13.764
[Diseases=6]	1.221	1.044	1.369	1	0.242	3.392	0.439	26.234
[Diseases=7]	0[b]			0				
[Respect=1]	-1.674	1.034	2.618	1	0.106	0.188	0.025	1.424
[Respect=2]	1.06	1.173	0.816	1	0.366	2.885	0.29	28.736
[Respect=3]	0[b]			0				