SURVEY OF THE HEALTH OF THE ELDERLY IN JORDAN

SAWSAN M. MAHASNEH*

SUMMARY: The elderly in Jordan form about 4.6% of the Jordanian population. There are no specialized health services for the elderly in Jordan, also very few studies have been carried out in relation to the health of the elderly. The purpose of this survey was to describe the health status of the elderly in Jordan. Countries such as Jordan need to better understand the health of the elderly in order to provide health services that meet those needs. Data were collected using an interview questionnaire that was completed by the research assistants in the homes of the elderly. The results indicate that the majority of the elderly population live within a family unit and usually have someone to help them. Most of the participants suffered from chronic health problems and many did not have adequate health insurance or could afford health services. The income they lived on was mainly from their families and retirement funds. The elderly in Jordan need to receive more attention by both government and civil society organizations, so that they are no longer the forgotten few.

Key Word: Geriatry.

INTRODUCTION

Recent and projected increases in the proportion and number of elderly in many developing countries have drawn attention to issues concerning the well being of this potentially vulnerable age group (17). The rate of this demographic change is proceeding more rapidly in developing countries (8). In Jordan the elderly (above 60 years old) constitute about 4.6% of the population while the percentage is slightly higher for the Arab region as a whole (5.6%) (15). The percentage is expected to reach 6.8% in 2025 and 15.3% in 2050 (15). This increase can be attributed to several factors including the decrease in total fertility rates, reduction in infant and child mortality rates, the increase in life expectancy, decrease in mortality rates, improvement of health services, increased levels of education especially among females, improved nutrition, and changes in living conditions (2, 15).

This gradual increase in the elderly population in Jordan as in other Arab countries is expected to lead to a shift in the morbidity picture with an increase in degenerative and chronic diseases and an increase in old age dependency ratios, widowhood, age of retirement, pensions, and health care expenditure (8, 9). Jordan has an opportunity to begin to plan for the health and social needs of this group especially since there is an increase in the number of women (who are usually the primary caretakers at home) entering the labor market and an increased trend towards nuclearization of family. Such plans need to be

*From Nursing Program, Dar Al Hekma College, P.O. Box 34801, Jeddah 21478, Saudi Arabia.

developed based upon an analysis of the health care needs of the elderly in the country.

Therefore, the purpose of this study was to describe the health status of the elderly in Jordan. The survey was part of a situation analysis of the health status of the elderly carried out by the Jordanian Ministry of Health and WHO. The objectives of the survey were: *i.* to assess the living conditions of the elderly, *ii.* to describe the perception of the elderly regarding their health, *iii.* to describe the health of the elderly both from a physiological and psychological point of view, *iv.* to identify ways to improve the health status of the elderly in Jordan.

BACKGROUND

A review of literature revealed a few studies of the elderly in Jordan. Taani (14) studied the health status and utilization of health services by the elderly in the city of Irbid. A total of 216 elderly persons were interviewed using the Duke University Health Profile assessed health status. The results indicated that advanced age was highly associated with poor health status which was associated with high utilization of health services. The study also showed that 86% of the sample suffered at least one medical problem during the year prior to the study. In addition, the elderly felt that they were not receiving adequate care for several of the health problems they suffered from. The results indicated that the females tended to suffer from more problems than the males in the study.

Al-Shawwa (4) investigated the relationship between the type of residence (home versus nursing home) of the elderly and their level of depression. One hundred and fifty elderly of both sexes were studied; half of the sample was institutionalized while the other half were staying with their families. The results indicated that the level of depression experienced by the institutionalized elderly was higher than those living with their families. There was no significant relationship between level of depression and the sex and level of education of the elderly.

Attalah (5) examined the social interactions of elderly women to the changes in the Jordanian society. Four hundred women above 70 years old were selected. The study found that there was a positive relationship between the visits of the aged woman and her family, and her relationships with the family of her husband. If her relationship with her husband's family was good then her visits to her family were more frequent. The older the woman got, the lesser she agreed with the members of her family and the more she feared loneliness. Also the women who chose who they wanted to marry suffered less difficulties than those women whose husbands were chosen for them.

Several of the studies reviewed indicated that the elderly suffered from recreational problems and troubled family relationships. Abu Nameh (1) studied a sample of 400 persons aged 65 years and above in the governorate of Amman. The results of the study indicated that the elderly in the sample suffered from several problems including boredom, neglect, insufficient care, and problems with their families and relatives. In addition, most of the sample refused the idea of going to a nursing home. The few that accepted this idea, suffered from physical disabilities and neglect by their children, also the women were found to suffer from more problems than the men in the sample.

Qaddomi (12) who studied the problems of the elderly in Irbid in light of several variables found similar results: sex, marital status and place of residence (living alone or with their children). The researcher collected data from 100 males and females above 65 years representing the different social and economic levels, and from urban and rural areas. The most significant five problems experienced by the elderly in the sample were poor living conditions, lack of interest to go to public gardens and clubs, lack of respect and affection by their sons and daughters, being emotional and easily irritated and dislike going to the doctor. The investigator also found that the problem fields had the following order: the field of recreation and leisure time, the economic field, the social field and the psychological field. No significant differences were found in relation to variables such as sex, social circumstances and location of residence. Mahafza (10) found similar results among 60 elderly in Jordanian nursing homes. The results indicated that the most important problems were recreational, followed by the social, health services delivery and psychological domains.

Pinquart and Sorensen (11) carried out a meta-analy-

sis of 300 empirical studies on gender differences in life satisfaction, happiness, self-esteem, loneliness, subjective health and subjective age in late adulthood. They indicated that older women reported more loneliness and lower subjective health than older men did. Two Jordanian studies investigated the psycho-social health of the elderly. There are no studies available on the health of the elderly in Jordan. Therefore, this study was carried out to assess the health status of the elderly in Jordan.

DESIGN AND METHODS

The survey of the elderly was carried out in the city of Amman for several reasons: *i.* the time constraint, *ii.* scarce financial resources to carry out the analysis, *iii.* half the population of Jordan resides in Amman, *iv.* more than 70% of the population of Jordan live in urban areas. The Ministry of Health, Directorate of Health Safety, carried out the survey.

Sample: A representative sample of all the economic levels in the city of Amman was identified with the assistance of the Department of Statistics. Blocks were designated, the field researchers identified the homes included in each of the blocks, and then each home was visited and checked if there were any elderly persons living there. The field researchers returned at another date to the homes where there were elderly persons living and interviewed them. Informed consent was obtained from all participating individuals after providing a description of the general aim and design of the study and assuring them of the confidentiality of the collected data.

Instrument: The interview form was developed based on a review of literature, in addition to a review of a questionnaire that was developed by WHO and used in previous surveys of the elderly. The items included in the final questionnaire were demographics, living conditions, functional abilities, health, psychological and social status, nutrition, activity, and income. Data collected were entered in the computer and analyzed using SPSS/PC.

RESULTS

Demographic characteristics of sample

Four hundred and twenty elderly persons who were found in the designated blocks were interviewed. Table 1 summarizes the demographic characteristics of the sample. The average age of the sample was 68 years, more than 60% of the elderly in the sample were aged 60-69 years and females (51.7%) were slightly more than males (48.3%) in the sample. 82% of the sample was illiterate and 25.5% had primary education. Seventy percent of the sample was married and 26.7% were widowed.

Living conditions

Only 6.7% of the sample lived alone, 14.8% lived with their spouses, 44.3% with their spouses and unmarried

Table 1: Demographic characteristics of the sample.

Age	**N**	**%**
60-64	147	35.0
65-69	117	27.0
70-74	79	18.8
75-79	45	10.7
80-84	16	3.8
85-89	7	1.7
90-94	5	1.2
95+	4	1.0
Total	**420**	**100**
Sex		
Male	203	48.3
Female	217	51.7
Total	**420**	**100**
Education level		
Illiterate	261	62.1
Primary	107	25.5
Elementary	22	5.2
Secondary	13	3.1
High School	8	1.9
Diploma	3	0.7
University	6	1.4
Tyotal	**420**	**100**
Marital status		
Married	295	70.2
Widowed	112	26.7
Single	12	2.9
Divorced	1	0.2
Total	**420**	**100**

Table 2: Ability to carry out self care activities.

Activities	Yes		No		With help	
	N	%	N	%	N	%
Sharing in conversation	408	97.1	7	1.7	5	1.2
Eating	399	95.0	8	1.9	13	3.1
Reading or watching TV	388	92.4	29	6.9	3	0.7
Going to bathroom	382	90.9	7	1.7	31	7.4
Walking	378	90.0	11	2.6	31	7.4
Dealing with money	373	88.8	35	8.3	12	2.9
Dressing	371	88.3	6	1.4	43	10.2
Leaving and moving outside home	355	84.5	39	9.3	26	6.2
Bathing	354	84.3	7	1.7	59	14.0
Preparing food	310	73.8	72	17.1	38	9.0
House-keeping	303	72.1	82	19.5	35	8.3

children, 21.9% lived with their extended families and 12.3% with others. On the average the elderly person was living with 4 persons. Eighty-five percent of the sample considered their houses warm in the winter and 92.4% considered their houses cool in the summer. The majority of the sample (93.6%) felt that their houses were safe. Reasons cited by the elderly for not feeling safe included family problems, inability to live alone and cold weather.

Most of the samples were able to carry out self-care activities alone or with help. In a few cases they were unable to carry out some activities such as housekeeping (19.5%), preparing food (17.1%), mobility outside the house (9.3%) and dealing with money (8.3%) (Table 2).

About 38% of the sample had no assistance at home. Of those who had assistance, the main helpers were the wives (40%), daughters (20.8%), and daughters-in-law (16.5%), and sons (14.6%) (Table 3). Thirty-five percent of the sample used eyeglasses, 17.4% used walking aides and 4.8% used hearing aides. Twenty percent of the sample indicated that they needed assistive aides but they were unable to obtain them.

Most of the sample spent the day with their families (91.2%), with their neighbors (66%), alone (46.2%), and helping with housework (46%). About 11% worked part time to generate income and 3.6% worked full time. Only three people did voluntary work.

Health

The participants were asked to rate their health. About 10.5% of the sample perceived that their health was excellent, 63.6% good, while 26% believed that their health was poor. When asked to compare their health to other people, 51.7% believed their health was similar to others, 22.6% considered it to be better than others, 18.3% considered their health worse than others and 7.4% could not say. The

Table 3: Main helper at home.

Persons	N	%
Wife	105	40.4
Daughter	54	20.8
Daughters in law	43	16.5
Children	38	14.6
Nephews and nieces	8	3.1
Maids	7	2.7
Brothers and sisters	4	1.5
Cousins	1	0.4
Total	260	100

Table 4: Three most important activities done to maintain health.

Activities	Yes		No	
	N	%	N	%
Balanced diet	277	66.0	143	34.0
Adequate rest	232	55.2	188	44.8
Regular check-ups	196	46.7	224	53.3
Personal hygiene	160	38.1	260	61.9
Herbal teas	130	31.0	290	69.0
Abstain from tobacco and alcohol	111	26.4	309	73.6
Regular exercise	57	13.6	363	86.4
Safe environment	47	11.2	373	88.8

three main activities done to maintain their health were eating a balanced diet (66%), getting adequate rest (55.2%) and having regular check-ups (46.7%) (Table 4).

More than a quarter of the sample suffered from an accident or illness that affected their abilities to perform activities of daily living. These conditions were mainly falls and accidents (9.3%), musculoskeletal (5.2%), gastrointestinal (4%), cardiovascular (3.6%), and endocrine (2.5%) (Table 5).

The present health problems as perceived by the sample were arthritis (48.6%), high blood pressure (37.4%), diabetes (26.9%), heart problems (14.0%), and accidents and falls (11%) (Table 6). About three-quarters of the sample took medication and the majority was capable of taking it by themselves (91%). The main health professionals consulted during the past month were doctors (72.9%), pharmacists (12.9%), dentists (8.3%), nurses (1.9%) and religious leaders (1.7%).

About 19% believed that health care was unavailable for a health problem they had at present. The main problems were eye, ear, and throat (32.1%), musculoskeletal (28.2%) (Table 7). The main reasons for not receiving care were the high cost of care (70.1%), not covered by health insurance (14.3%), poor treatment (7.8%) and treatment not available (7.8%).

About 22% of the sample smoked 20 cigarettes on the average per day for 38 years. Only one person from the sample admitted to drinking alcohol.

Table 5: Accidents or illnesses affecting activities of daily living.

Types of accidents or illnesses	N	%
None	302	71.9
Accidents	39	9.3
Musculoskeletal	22	5.2
Gastrointestinal	17	4.0
Respiratory	15	3.6
Endocrine	11	2.5
Cardiovascular	6	1.4
Eye, ear, nose, throat	4	1.0
Gynecological and skin	2	0.5
Urinary	2	0.5

Psycho-social aspects

Approximately three-quarters of the sample sometimes or always had feelings of loneliness, being tired all the time, had difficulty of sleeping, anxiety and depression (Table 8). About 22% of the sample did not visit their relatives, while their relatives did not visit 4% of the sample. The relatives visited the elderly more times (6 visits) than the elderly visited the relatives (4 visits). More than two thirds of the sample felt that they were consulted on family matters. Only 10% knew of agencies that work with the elderly in the community. The services needed and not available in the community were health insurance for the elderly (34.9%), community care for them (34.9%), public

Table 6: Presence of health problems.

Types of problems	Yes		No	
	N	%	N	%
Arthritis	204	48.6	216	51.4
High blood pressure	167	37.4	263	62.6
Diabetes	113	26.9	307	73.1
Heart problem	59	14.0	361	86.0
Accidents and falls	46	11.0	374	89.0
Stroke or paralysis	42	10.0	378	90.0
Fractures	28	6.7	392	93.3
Respiratory problem	27	6.4	393	93.6
Cancer	8	1.9	412	98.1
Burns	4	1.0	416	99.0

Table 7: Need for care is not available at present.

Types of Problems	N	%
Eye, ear, throat	25	32.1
Musculoskeletal	22	28.2
Gastrointestinal	7	9.0
Endocrine	7	9.0
Cardiovascular	7	9.0
Respiratory	5	6.4
Accdients	2	2.6
Renal	2	2.6
Gyne and skin	1	1.3
Total	78	100

gardens or clubs (14%), clinic nearby (9.2%) and electricity and other services not available (7%). About 44% of the sample benefited from services provided by governmental and non-governmental agencies.

Nutrition

About 26% considered their appetites as excellent, good (59.3%), and poor (14.8%). Foods consumed during the past 24 hours were vegetables (80.7%), dairy products (78.6%), meat, poultry and fish (69.3%), cereals (66.9%), fruits (62.1%), and starches (57.9%). About half of the sample was on a special diet, mainly low carbohydrate (47%), low fat diets (42%), and low salt (11%). About 2/3 of the sample considered themselves compliant with their diets. Reasons cited for non-compliance included no desire (neglect), despair, and inability to care for oneself. About 9% of the sample did not have someone available to prepare the food. Of those elderly who prepared the food, the main person was the wife (40.1%) or the person him/herself (37.0%), their children (18.8%) and relatives (4.1%). About 40% reported a weight change in the past six months, no change (43.3%), while 16.7% did not know if there was a weight change. Most of the weight change was a decrease in weight (68.8%).

Income

The results of the survey indicated that there were greater numbers of elderly persons in the lower economic groups. About 3% of the elderly did not have a source of income. The two major sources of income were their children (41%), and retirement or social security funds (36.2%) (Table 9).

The amount of retirement salary per month ranged from 0-250 JD. There was no retirement salary for 84.5% of the sample (Table 10). Only 8.6% worked to gain income as laborers, office workers, militaries, and drivers.

STATISTICAL EVALUATIONS

Further analysis was carried out between demographic variables and the other variables in the study. Sex was found to be the variable that had a significant relationship with several variables related to the health of the elderly. In terms of living conditions more elderly women were found to live alone than elderly men ($X2 = 53.701$, $df = 4$, $p < 0.001$). Also more elderly women reported that their houses were not warm in the winter ($X2 = 4.726$, $df = 1$, $p < 0.05$) and unsafe ($X2 = 4.882$, $df = 1$, $p < 0.05$) than the elderly men.

Table 8: Frequency of feelings.

Feelings	Always		Sometimes		Rarely	
	N	%	N	%	N	%
Difficulty of sleeping	114	27.1	176	41.9	130	31.0
Anxiety	110	26.2	183	43.6	127	30.2
Tired all the time	103	24.5	234	55.7	83	19.8
Loneliness	100	23.8	177	42.1	143	34.0
Depression or sadness	86	20.5	172	41.0	162	38.6

Table 9: Main sources of income.

Sources of income	N	%
Children	172	41.0
Retirement or social security	152	36.2
Private business	32	7.6
Rent	32	7.6
No income	13	3.1
Help from neighbors and zakat fund	10	2.4
Other relatives	9	2.1
Total	**420**	**100**
Types of works		
Worker	16	43.3
Driver	9	24.3
Military	6	16.2
Employee	6	16.2
Total	**37**	**100**

Activities of daily living

More elderly women reported the need for assistance to prepare food (X2 = 14.473, df = 2, p < 0.001); to do housework (X2 = 7.311, df = 2, p < 0.05) and walk outside the house (X2 = 9.756, df = 2, p < 0.05) than elderly men.

Health disorders

More elderly men perceived their healths to be excellent at the present time (X2 = 8.173, df = 2, p < 0.01) than did the elderly women. More elderly men reported eating a balanced diet (X2 = 3.926, df = 1, p < 0.05) and exercising (X2 = 11.607, df = 1, p < 0.001) than elderly women. More women reported using herbs (X2 = 9.165, df = 1, p < 0.05) to maintain health than elderly men.

More elderly women reported suffering from hypertension (X2 = 8.426, df = 1, p < 0.003); rheumatism (X2 = 8.702, df = 1, p < 0.003) than elderly men. A greater percentage of elderly women reported taking medication (X2 = 13.157, df = 1, p < 0.0003) and consulted physicians for health problems in the past month (X2 = 5.214, df = 1, p < 0.02).

More elderly men reported smoking (X2 = 36.576, df = 1, p < 0.001) than elderly women.

Table 10: Retirement.

Amount of retirement salaries (JD)	N	%
None	355	84.5
1-49	1	0.2
50-99	29	6.9
100-149	23	5.5
150-199	7	1.7
200-249	3	0.7
250+	2	0.5

Use of assistive aides

More men reported the need for glasses (X2 = 18.313, df = 1, p < 0.001) and walking aides (X2 = 6.930, df = 1, p < 0.008).

Appetite

More elderly women reported poor appetite at present (X2 = 14.460, df = 2, p < 0.001) than elderly men.

Psycho-social feelings

More elderly women reported feeling lonely some or most of the time (X2 = 28.591, df = 2, p < 0.001); feeling tired all the time (X2 = 26.061, df = 2, p < 0.001); having difficulty of sleeping (X2 = 27.279, df = 2, p < 0.001); feeling anxious (X2 = 22.993, df = 2, p < 0.001), and feeling depressed (X2 = 21.347, df = 2, p < 0.001) than elderly men.

Daily activities

More elderly women reported sitting alone all day (X2 = 6.751, df = 1, p < 0.05) or doing housework (X2 = 57.742, df = 1, p < 0.001) than elderly men. More men reported sitting with their families all day (X2 = 15.379, df = 1, p < 0.001); working part-time outside the house (X2 = 23.899, df = 1, p < 0.001) and working to gain income (X2 = 24.187, df = 1, p < 0.001) than elderly women.

DISCUSSION

The demographic characteristics of the sample in the present study are similar to those described by Akroush (2, 3), who focused on the measurements and the main indicators of the results of the population census in 1994 in relation to the aged population in Jordan.

Bongaarts and Zimmer (6) studied the living arrangements of older adults across 43 developing countries. They found that on the average the elderly people live in a house with 4.5 other members. It is similar to the findings of present study (4 persons). Bongaarts and Zimmer (6) pointed out that only a very small percentage of individuals of all ages' live alone (1.6%) across all countries. However, this percentage is substantially higher for old people (8.8%). In the present study rate of living alone was lower (6.7%). This lower percentage may be due to the fact that living alone is uncommon in the Arab region and surrounding countries. Family caregiving is fundamental to our society. It is part of the Jordanian culture and religion that the children care for their elderly parents and it is not acceptable to let them live alone unless they have no family or support systems. Many older adults who live alone have kin living nearby with whom support is exchanged (6). According to Bongaarts and Zimmer (6) a substantial majority of older males (76.7%) co-resided with their spouses while in the present study the percentage of elderly co-residing with their spouses and/or their children was lower (59.1%). This may be due to the increased nuclearization of the family in Jordan. Couples tend to live separate from but near their parents. The percentage of older females living with alone was significantly greater than the older males. This may be due to women experiencing a higher risk of death of a spouse because men are usually older than their wives and have higher age-specific mortality rates than women.

Wu and Rudkhin (17) indicated that high levels of family interaction and exchange, especially between adult children and aging parents have been documented in studies on aging East and Southeast Asian nations. The investigators reported that the presence of social support was fairly consistently found to be associated with more positive health outcomes in developed country settings.

The elderly in the present study appear to have a lower perception of their health status as excellent (10.5%) than the elderly in the Denning, Chi, Huppert, Paykel and O'Connor's (7) where (32%) of the elderly reported very good health. Denning *et al.* study reported data from a community study of a large cohort of elderly people in Cambridge, United Kingdom followed up over 6 years. The investigators used a four-point scale while in this study a three-point scale was used to rate their present health. Again in the present study 26% of the sample believed their health was poor while in the Denning *et al.* (7) study (4%) rated their health as poor or very poor. In addition Denning *et al.* (7) found that older people were significantly more likely to report very good health relative to their contemporaries.

In the present study about 1/4 of subjects had suffered from an accident or illness that affected their abilities to perform activities of daily living. While Rosenberg and Moore (13) reported that 1/3 of Canadians aged 65-74 had health problems that restricted their activities to some degree. This may be because the majority of the sample in the present study is from the young-old age group while the elderly in Canada and other Western countries are from the middle to old-old age groups who may suffer more from sensory deficits and balance problems that might lead to accidents and injuries.

The elderly in the present study reported the need for health insurance, community care for the elderly, clinics and public gardens and clubs in their communities. Hafez, Bagchi, and Mahaini (8) stated that all 18 countries (in the Eastern Mediterranean region) that they studied reported that their elderly populations had access to the usual range of health care available at government -run health facilities, such as hospitals and outpatient departments. Five countries only mentioned geriatric units. Specialized geriatric clinics as a first level of contact for the elderly populations are not available in the countries of the region (8). In Jordan there are no specialized clinics or health professionals for the elderly.

Families in Jordan remain the most important place where the elderly live and from whom they receive their cares and even their incomes. In general they appear to be able to function independently and care for themselves. In spite of this the elderly suffer from many chronic problems in addition to emotional ones. They have difficulty in moving and transportation. They do not have much assistance at home for the activities of daily

living; they are insecure financially and specifically in terms of health insurance. But the female elderly appear to be more disadvantaged than the elderly males. They report more health and psycho-social problems and take more medications, live alone, feel unsafe and need assistance in some of their activities of daily living than elderly males.

The Eastern Mediterranean Region developed a regional strategy for health care of the elderly in the region (1992-2001) (16). In addition Jordan is one of 12 of the 18 countries (66.6%) that reported that they had a national policy for the care of the elderly (8). In most instances a national policy means a national committee for care of elderly, usually administered by the Ministry of Social Affairs. Although there is a national committee for the elderly it has very limited authority to carry out its policies.

Based on the findings of the present study it is recommended that efforts should be made to support and maintain the elderly as much as possible in their homes with their families in the community. The following could be done to achieve this:

1. Empowering the national committee to coordinate and carry out activities and services for the elderly in Jordan, and adopting a clear-cut administrative policy to provide coordinated support to the elderly population including a national policy for the welfare of the aging population in terms of health insurance coverage and retirement plans. This should be accompanied by a national program for creating mass awareness about the special needs of the elderly population and their importance to the family.

2. Strengthening primary health care with training in the needs and health care of the elderly. Providing health and economic services that are more sensitive to the needs of the elderly and are community based. Conducting of research on the health needs of the elderly and support of testing and implementing interventions to meet those needs.

3. Medical, nursing and social sciences faculties need to give greater emphasis in their curriculums on the care of the elderly. Supporting specialized training in Geriatric care for health care and other personnel.

4. Developing standards for old age homes and methods of regular monitoring.

5. Developing recreational services for the elderly whether based in the community or in nursing homes, in order to increase their stimulations and reduce, their feelings of depression, loneliness and isolation. Providing counseling services for the elderly. Encouraging the elderly and concerned organizations to develop their networks and support groups and to encourage volunteering among the elderly.

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Correspondence:
Sawsan Majali Mahasneh
Nursing Program,
Dar Al Hekma College,
P.O. Box 34801, Jeddah,
21478, SAUDI ARABIA.
e-mails: smajali@daralhekma.edu.sa,
sawmaj@hotmail.com