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Editorial

Author

Dr Abdulrazak Abyad

Chief editor

Middle East Journal of Age and Aging was launched in the Summer of 2004.

It is clear that elderly Care in the Middle East is still lagging behind. However a lot of interest has been seen recently. We are planning to have two more issues this year and to increase the frequency of the journal starting in the year 2007. In addition we are announcing the official launch of the Middle East Network on Ageing Research MENAR. There is a substantial research need in the ageing field in the Middle-East. Research is an essential prerequisite in developing the speciality further in the area, and in developing evidence-based practice. Therefore we are in the process of establishing the Middle East Network on Ageing Research (MENAR) which will be linked to a number of international organizations dealing with elderly issues including InterRAI international.

The aim of the MENAR is to develop Geriatrics and Gerontology Research in the area, in particular to do the following:

1. To build the aging research network to fulfil unmet research needs.
2. To do collaborative research within the area, and with other networks.
3. To lobby for financial support for research in the Aging field from different organisations.
4. To help in the development of research training programmes, and the professional development of family physicians/researchers.
5. To organise conferences that deal with research in Ageing.
6. To establish a number of experts from a multidisciplinary background to act as advisors and mentors.
7. To help in publication of research studies from the region.
8. To foster collaboration between individual physicians, centres and countries within the Region.
9. To help in the exchange of ideas and methodologies in the area.

Membership in the MENAR is being developed rapidly, and now includes representatives from different countries

in Eastern Mediterranean region. Membership from individuals as well as from networks is being solicited at this time. Membership is free, however any potential contribution will be helpful in strengthening the network. In order to become a member you need to fill the form available in the mini website.

Currently there are representatives from ten countries as members of MENAR, in addition to two national networks. We will commence our first research project soon.

This issue of the journal has a variable mix of papers from the area, and internationally. A study from Jordan compared the effects of sub-Tenon's and different doses of intravitreal triamcinolone acetonide injection on visual acuity and intraocular pressure in management of diffuse macular oedema. The study was a prospective study that included 80 patients (eyes) with diffuse diabetic macular oedema. There was no significant difference in the final visual acuity in patients with diffuse diabetic macular oedema receiving either sub-Tenon's injection or intravitreal triamcinolone acetonide (2 mg or 20 mg). Sub-Tenon's triamcinolone had the advantage of less intraocular pressure elevation.

A common problem in the elderly was discussed in a paper on Vertigo, Tinnitus, and Hearing Loss in the Geriatric Patients. The authors assessed 40 patients over the age of 65 years for vestibular function in two groups of elderly patients based on their complaints of vertigo, tinnitus and hearing disorders. They concluded that Vertigo, tinnitus and hearing loss largely affect elderly subjects, especially the ones that do not have an active life, as opposed to those that perform different activities in elderly groups. vestibular disorders, detected by vectoelectronystagmography were similar in both studied groups.

A study from Iran report on Serum Lipid Levels in Tehranian people. A total of 2000 participants' aged more than 60 years who were living in Tehran, were selected by random sampling process. The mean Serum Triglycerides (TG) Concentration of older people above 60 years was 181 mg / dl; whereas the mean Serum Total Cholesterol (TC) Concentration of older people above 60 years was 218 mg / dl., the mean Serum HDL - c Concentration of older people above 60 years was 47 mg / dl, HDL

whereas the mean Serum LDL - c Concentration of older people above 60 years was 138 mg / dl. The authors concluded that since CVD events are increased by elevated Total Cholesterol and LDL Cholesterol, and high prevalence of Lipoproteinemia in older people in Tehran, design and execution of Comprehensive Geriatric assessment is needed to reduce patients at high risk of Cardiac events.

A paper from the United Kingdom reviewed Malnutrition in an Ageing Population. In this paper the authors reviewed the literature on malnutrition in an Ageing Population. They concluded that a number of physical, mental, social and environmental changes which take place with ageing may affect the nutritional status of elderly people. They stressed the high prevalence of malnutrition risk in this population and the potential of appropriate screening processes to remove this risk. Nutritional screening should be given a high priority. They concluded that Nutritional “screening tools”, using combinations of markers of malnutrition have been demonstrated to be simple, rapid, acceptable, reliable and valid methods of nutritional screening.

Dr Al Kurashi NS et al reviewed the concept of Home Health Care Team. The authors stressed the importance of such a team and that Home Health Care (HHC) is that component of a continuum of comprehensive health care whereby health services are provided to individuals and families in their places of residence for the purpose of promoting, maintaining or restoring health, or maximizing the level of independence, while minimizing the effects of disability and illness, including terminal illness.

Dr Ellis M discussed the different perspectives and models of the quality of life. He stressed that more and more quality of life is judged in terms of wealth rather than in terms of such immeasurable faculties such as happiness, creativity, well being, generosity of spirit and a sense of compassion and connectedness.

Fariba Teymoori F reviewed the SOCIAL WELFARE AND HEALTH (MENTAL, SOCIAL, PHYSICAL) STATUS OF AGED PEOPLE IN IRAN.

The authors reviewed Iran census for aged people in details. They discussed the social welfare, and health status of aged people in Iran. In social welfare status they focused on issues like social security, welfare, shelter, education, family pattern, and income. In health status, they focused on different categories: mental health, physical health, and social health. Since old age is associated with more dependency and is concomitant with other related diseases, in order to confront these problems different kinds of health, medical, and economical facilities should be considered.

A well rounded review from Australia on Pre-operative evaluation of the elderly. The authors discussed issues concerning elderly surgical admissions, and these include: general health, language issues, informed consent, family support, pain management and follow up. They stressed the importance of providing discharge summaries to the patient’s family and referring doctor as many elderly patients are on multiple medication and have concomitant illness.

Comparison between Sub-Tenon's and Different Doses of Intravitreal Triamcinolone Acetonide in Management of Diffuse Macular Oedema

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ABSTRACT

Objectives: To compare the effect of sub-Tenon's and different doses of intravitreal triamcinolone acetonide injection on visual acuity and intraocular pressure in management of diffuse macular oedema.

Patients and methods: A prospective study that included 80 patients (eyes) with diffuse diabetic macular oedema attending ophthalmology clinic at King Hussein Medical Center. Patients were randomized to receive either an intravitreal injection of 2 mg triamcinolone acetonide, intravitreal injection of 20 mg triamcinolone acetonide, sub-Tenon's injection of 20 mg triamcinolone acetonide and a control group that received only laser treatment (20 patients in each group). Visual acuity and intraocular pressure were assessed.

Results: Maximum increase in visual acuity was significantly associated with the 20 mg intravitreal triamcinolone injection. Increase in intraocular pressure was not significantly different between the two doses of intravitreal injection and less elevated after the sub-Tenon's injection. Elevation of intraocular pressure was maximum two months after the injection. All patients who showed persistent elevation of intraocular pressure responded well to medical treatment.

Conclusions: There was no significant difference in the final visual acuity in patients with diffuse diabetic macular oedema receiving either sub-Tenon's injection or intravitreal triamcinolone acetonide (2 mg or 20 mg). Sub-Tenon's triamcinolone had the advantage of less intraocular pressure elevation.

Keywords: Sub-Tenon's, intravitreal, triamcinolone, and diffuse macular oedema.

Introduction

Macular oedema is one of the most important reasons for reduced vision in patients with diabetic retinopathy. If there is focal leakage of fluid in the macular region, it can be treated by focal argon laser coagulation of the leaking retinal area¹⁻². In eyes with diffuse macular oedema, laser treatment cannot be focused on localized retinal leakage spots since the entire macula is involved. This is usually treated with grid laser covering the whole macular region with a fine net of small laser coagulation spots although its benefit is still controversial³.

The use of sub-Tenon's and intravitreal triamcinolone acetonide for the treatment of diabetic macular oedema has been recently investigated³⁻⁵. In this study we aimed to compare between the effect of sub-Tenon's (20 mg) and intravitreal triamcinolone acetonide injection (2 mg and 20 mg) on visual acuity and intraocular pressure in management of diffuse macular oedema.

Patients and methods

A prospective, comparative, non-randomised clinical interventional study that included 80 patients (eyes) with

diffuse diabetic macular oedema attending ophthalmology clinic at King Hussein Medical Center. Patients were randomized to receive either an intravitreal injection of 2 mg triamcinolone acetonide, intravitreal injection of 20 mg triamcinolone acetonide, sub-Tenon's injection of 20 mg triamcinolone acetonide, and a control group that received only laser treatment (20 patients in each group). All patients in the three study groups received laser treatment (focal or grid) one week after the injection. Patients were followed up regularly up to six months. Ophthalmologic examination included Snellen visual acuity testing, anterior segment examination via slit lamp, dilated funduscopy and Goldmann's appplanation tonometry. Visual acuity and intraocular pressure were assessed at each visit.

Results

The mean age of all patients was 66.6 years with a 1.1:1 male to female ratio. Patients in different groups were comparable regarding age, presence of cardiovascular disease, renal impairment and hyperlipidaemia. Maximum increase in visual acuity was significantly associated with the 20 mg intravitreal triamcinolone injection followed by 2 mg intravitreal injection. A gain of visual acuity of at least two Snellen lines was seen in 75% and 60% after three months in the two groups respectively. A similar gain was seen in 40% of patients treated with sub-Tenon's triamcinolone and in 5% of the control group. After six months, the figures were 60% for 20 mg intravitreal triamcinolone, 55% for 2 mg intravitreal triamcinolone, 50% for sub-Tenon's injection compared to a drop of the visual acuity in the control group (table 1).

Table 1 Number and percentage of patients with two Snellen line gain in visual acuity after 3 and 6 months of treatment.

Visual acuity gain (two Snellen lines)	Sub-Tenon's injection (Number and % of patients)	Intravitreal injection (2mg)	Intravitreal injection (20mg)	Control group
After 3 months	8 (40%)	12 (60%)	15 (75%)	1 (5%)
After 6 months	10 (50%)	11 (55%)	12 (60%)	0

Increase in intraocular pressure was not significantly different between the two doses of intravitreal injection and less elevated after sub-Tenon's injection (mean intraocular pressure in control group- 15.6 mmHg, sub-Tenon's triamcinolone- 17.3 mmHg, 2 mg intravitreal triamcinolone- 19.8 mmHg, 20 mg intravitreal triamcinolone- 22.4 mmHg). Elevation of intraocular pressure

was maximum two months after the injection. All patients who showed persistent elevation of intraocular pressure responded well to medical treatment (table 2).

Table 2 Intraocular pressure changes after 2 months of treatment and its response to medical treatment when indicated.

Mean IOP mmHg	Sub-Tenon's injection	Intravitreal injection (2mg)	Intravitreal injection (20mg)	Control group
After 2 months	17.3	19.8	22.4	15.6
After medical treatment	17.1	17.6	17.4	15.4

Discussion

Recent clinical and experimental studies have suggested that the intravitreal injection of triamcinolone acetonide may be a therapeutic option for the treatment of intraocular neovascular, oedematous, or inflammatory diseases⁶⁻⁷. In case series studies doses of 4 mg or about 20 mg triamcinolone acetonide were used and resulted in a significant increase in visual acuity compared to visual acuity measurements obtained at baseline⁸⁻¹⁰. Our results supported what was previously reported. Three months after the injection, a maximum increase in visual acuity was associated with the 20 mg intravitreal triamcinolone injection followed by 2 mg intravitreal injection. A gain of visual acuity of at least two Snellen lines was seen in 75% and 60% in the two groups respectively. A similar gain was seen in 40% of patients treated with sub-Tenon's triamcinolone and in 5% of the control group. After six months, the figures were 60% for 20 mg intravitreal triamcinolone, 55% for 2 mg intravitreal triamcinolone, 50% for sub-Tenon's injection compared to a drop of the visual acuity in the control group. From these results, we can see that there is no significant difference regarding visual acuity improvement in the three groups, six months after the injection.

None of the study groups showed evidence of endophthalmitis, marked progression of cataract as assessed by slit lamp or retinal detachment. The main side effect of intravitreal triamcinolone acetonide observed in the present study was an increase in intraocular pressure. Intraocular pressure (IOP) was measured after the injection by one day, one week and monthly thereafter. Increase in intraocular pressure was not significantly different between the two doses of intravitreal injection (2 mg intravitreal triamcinolone-19.8 mmHg, 20 mg intravitreal triamcinolone-22.4 mmHg). Less intraocular pressure elevation was seen after sub-Tenon's injection

(17.3 mmHg). Elevation of intraocular pressure was maximum two months after the injection. Four patients (20%) of the group that received 20 mg intravitreal triamcinolone needed medical treatment, compared to 2 patients (10%) who received 2 mg intravitreal injection and 1 patient (5%) of the sub-Tenon's group. All patients responded well to medical treatment and none of them needed surgery. Comparative studies showed that 20-50% of patients developed intraocular pressure measurements higher than 21 mm Hg¹¹⁻¹³. Jonas JB and his colleagues found that the rise of IOP is reversible about 6 months after the injection and is usually controlled by topical antiglaucomatous medication; and that the steroid induced ocular hypertension may thus not be a major contraindication against the use of intravitreal triamcinolone acetonide as treatment trial of intraocular neovascular or oedematous diseases¹².

In conclusion, there was no significant difference in the final visual acuity in patients with diffuse diabetic macular oedema receiving either sub-Tenon's injection or intravitreal triamcinolone acetonide (2 mg or 20 mg). Sub-Tenon's triamcinolone had the advantage of less intraocular pressure elevation.

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Vertigo, Tinnitus, and Hearing Loss in the Geriatric Patients

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Abstract:

Objective: to study the vestibular function in two groups of elderly patients based on their complaints of vertigo, tinnitus and hearing disorders.

Patients and Methods: we assessed 40 patients aged 65 years or over. The 40 elderly subjects comprised two different groups characterized as follows:

Group A: comprising 20 subjects in which participants performed weekly activities, formed by 19 female and 1 male subjects;

Group B: comprising 20 subjects who complained of vertigo and came to the Department of otolaryngology by medical indication, formed by 17 female and 3 male subjects.

Patients underwent detailed history taking and a thorough general examination, systemic examination, otoneurological examination and relevant audio vestibular studies.

Results: there is statistical significant difference between both groups, concerning the complaints of vertigo and tinnitus, which were more prevalent in group B. The computerized electronystagmography revealed that most individuals had normal diagnosis; however, there was a predominance of vestibular disorders in the elderly, such as Deficit Peripheral Vestibular Syndrome and Irritative Peripheral Vestibular Syndrome.

Conclusion: Vertigo, tinnitus and hearing loss largely affect elderly subjects, especially the ones that do not have an active life, as opposed to those that perform different activities in elderly groups. Vestibular disorders, detected by vectoelectronystagmography were similar in both studied groups.

Key words: Vertigo, tinnitus, hearing loss.

Introduction

We will all be geriatric individuals one day. As we age, we face many physical and emotional changes that can affect our level of function and well-being. Our baby-boomer population is aging, and people are living longer. We must maintain our functional independence in the elderly and address the needs of our older generation. Rehabilitation of geriatric patients is imperative for the patients' well-being and for society, so that we can thrive socially and economically.

Care of the elderly patient involves some fundamental premises which must be taken into account in treatment by otolaryngologists. Often multiple diseases coexist in these patients, which often present a diagnostic dilemma in treatment. The elderly also suffer from a unique set

of illnesses, which only occur in old age. Illnesses can present with unusual symptoms without common symptoms of pain and fever, which may lead to diagnostic dilemmas.

One of the greatest challenges in the geriatric population is their ability to communicate their problems, needs, and desires in a medical setting. Hearing impairments can hamper a patient's ability to express himself or herself clearly or to understand questions or commands. This is an enormous burden on the patient, the caregiver, and the psychiatrist as they work to achieve rehabilitation goals. Addressing these issues on the patient's initial visit can ameliorate problems and prevent frustration and further difficulties.

Vertigo is reported by about 30% of people aged over 65 years, 1, 2, 3, 4, 5 and in the United States it is the most common presenting complaint in office practice among patients aged over 75 years.³ Vertigo is a difficult diagnostic problem in elderly people as it has many potential causes and patients often find it difficult to articulate the nature of their symptoms.

Vertigo, tinnitus, and hearing loss symptoms are usually attributed to the vestibular system. However, these symptoms may be the most obvious signs of a more complex presentation, especially in geriatric patients. Vertigo may be described as dizziness, faintness, light-headedness, disorientation, or disequilibrium. Subjective vertigo is an illusion of movement of oneself, whereas objective vertigo is an illusion of movement of objects around oneself. Tinnitus is the perception of sound in the absence of an acoustic stimulus and may have a buzzing, roaring, whistling, or hissing quality or may involve more complex sounds that vary over time. Tinnitus is usually accompanied by hearing loss.⁶

The clinician can evaluate the cause of vertigo in 3 basic categories: peripheral, central, and systemic.⁷⁻¹⁰ Vestibular functions belong to the peripheral category with the exception of the central nerve system and vascular supply, which compose the central category. Vestibular dysfunctions found in the systemic category may be important in the geriatric patient because they occur as a result of side effects from medications (eg, anticonvulsants, hypnotics, antihypertensives, alcohol, analgesics, and tranquilizers) or an underlying systemic pathologic condition (diabetes, hypothyroidism).

Knowing that the occurrence of vertigo and falls is frequent in the elderly, it is important to assess their vestibular function so as to detect diagnostic, prognostic, prophylactic and therapeutic implications in this population.

The present study intended to study the vestibular function in two groups of elderly patients based on their complaints of vertigo, tinnitus and hearing disorders.

Materials and Methods

The sample of this study was conducted in the Department of Otolaryngology, Royal Medical Services (Jordan).

After institutional ethical committee clearance and written informed consent, we assessed 40 patients aged 65 years or over.

The 40 elderly subjects comprised two different groups characterized as follows:

Group A: comprising 20 subjects in which participants performed weekly activities, formed by 19 female and 1 male subjects;

Group B: comprising 20 subjects who complained of vertigo and came to the Department of otolaryngology by medical indication, formed by 17 female and 3 male subjects.

Patients underwent detailed history taking and a thorough general examination, systemic examination, otoneurological examination and relevant audio vestibular studies. Audiological tests included pure tone audiometry with tone decay, speech discrimination and short increment sensitivity index (SISI) tests. Vestibular evaluation comprised of balance tests, examination of spontaneous nystagmus, positional tests, electronystagmography (VENG) with bithermal caloric tests, craniocorpography (CCG) and brain stem evoked response audiometry (BERA). ENG studies consisted of spontaneous and positional nystagmus and caloric stimulation. Radiological tests like x-ray of mastoids, cervical spines, internal auditory meatus, CT scan and MRI of brain were done beside serum biochemistry for blood sugar, Glucose Tolerance Test, Renal Function Test, Liver function test and hematological investigations like hemogram, were done as and when required.

Results

There was statistically significant difference between the groups regarding the presence of vertigo (**Table 1**) and tinnitus (**Table 2**), in which we detected higher incidence of vertigo and tinnitus complaints among patients in group B.

Table 1. Distribution of elderly subjects in groups A and B according to presence or absence of vertigo

Group	A	B	Total
With vertigo	12 (60%)	18 (90%)	30 (75%)
Without vertigo	8 (40%)	2 (10%)	10 (25%)
Total	20 (100%)	20 (100%)	40 (100%)

Table 2. Distribution of elderly subjects in groups A and B according to presence or absence of tinnitus

Group	A	B	Total
With vertigo	9 (45%)	15 (75%)	24 (60%)
Without vertigo	11 (55%)	5 (25%)	16 (40%)
Total	20 (100%)	20 (100%)	40 (100%)

There was no statistically significant difference between the groups as to presence or absence of hearing complaint

(Table 3).

Table 3. Distribution of elderly subjects in groups A and B according to presence of hearing disorder

Group	A	B	Total
With vertigo	10 (50%)	11 (55%)	21 (52.5%)
Without vertigo	10 (50%)	9 (45%)	19 (47.5%)
Total	20 (100%)	20 (100%)	40 (100%)

As to spontaneous nystagmus (closed and opened eyes) and directional nystagmus, we detected absence of both in all studies subjects.

Upon studying Horizontal Pendular Tracking (RPh) (Tables 4), the statistical analysis did not produce significant association between type of RPh and the Groups. As most of the elderly in both groups had RPh types I and II, with type I RPh more prevalent in Group B and type II in Group A.

Table 4. Distribution of elderly subjects according to groups A and B and presence of Horizontal Pendulum Tracking

Group	A	B	Total
Type I	3 (15%)	12 (60%)	15 (37.5%)
Type II	15 (75%)	7 (35%)	22 (55%)
Type III	2 (10%)	1 (5%)	3 (7.5%)
Type IV	0 (0.0%)	0 (0.0%)	0 (0.0%)
Total	20 (100%)	20 (100%)	40 (100%)

In the investigation of ventricular pendulum tracking (RPv) (Table 5) we could observe that in this test, type I RPv was more prevalent in elderly people in Group B, type III RPv was more prevalent in elderly in Group A, and most of the subjects in both Groups had type II RPv. Data analysis revealed statistically significant differences between the groups. In the present study, we did not consider type II pendulum tracking as a signal of central involvement because visual disorders may interfere in the analysis of this test.

Table 5. Distribution of elderly subjects according to groups A and B and presence of Vertical Pendulum Tracking

Group	A	B	Total
Type I	1 (5%)	8 (40%)	9 (22.5%)
Type II	12 (60%)	11 (55%)	23 (57.5%)
Type III	7 (35%)	1 (5%)	8 (20%)
Type IV	0 (0.0%)	0 (0.0%)	0 (0.0%)
Total	20 (100%)	20 (100%)	40 (100%)

Table 6. Distribution of elderly subjects according to groups A and B and presence of Horizontal Optokinetic Nystagmus

Group	A	B	Total
Symmetrical	20 (100%)	18 (90%)	38 (95%)
Asymmetrical	0 (0.0%)	2 (10%)	2 (5%)
Total	20 (100%)	20 (100%)	40 (100%)

Results from Horizontal Optokinetic Nystagmus led us to realizing that most elderly patients in both groups presented symmetry and there was no statistically significant difference in the comparison between the groups.

Concerning the results obtained in PRPD (peri-rotatory nystagmus - NPR) (Table 7), we observed that in this task most of the studied subjects presented symmetry of NRP, more predominant in group A.

Table 7. Distribution of elderly subjects according to groups A and B and presence of Peri-Rotation Nystagmus

Group	A	B	Total
Symmetrical	20 (100%)	16 (80%)	36 (90%)
PD to the R	0 (0.0%)	1 (5%)	1 (2.5%)
PD to the L	0 (0%)	2 (10%)	2 (5%)
TArreflexia Bilat.	0 (0.0%)	1 (5%)	1 (2.5%)
Total	20 (100%)	20 (100%)	40 (100%)

Arrefl. Bilat.= Bilateral Arreflexia

PD to the R = Directional predominance to the right

PD to the L = Directional predominance to the left

As per Post-caloric nystagmus (Table 8) most elderly patients presented normal reflex response to caloric test. However, a reasonable number of elderly patients presented abnormalities in the test, and the most frequent affection was labyrinthic predominance. There was no statistically significant association in the comparisons between the groups.

Vestibular assessment using computerized VENG (Table 9) demonstrated that most elderly patients presented normal diagnosis. However, there were some cases of vestibular disorders in the elderly, with predominance of deficit peripheral vestibular syndrome and irritative peripheral vestibular syndrome. We did not observe pathognomonic signals of central affections in the vestibular exam. Statistical analysis demonstrated that there were no statistically significant associations in group comparisons.

Table 8. Distribution of elderly subjects according to groups A and B and presence of Post-caloric Nystagmus

Group	A	B	Total
normorreflexia	12 (60%)	11 (55%)	23 (57.5%)
PD to the R	2 (10%)	3 (15%)	5 (12.5%)
PL to the R	1 (5%)	2 (10%)	3 (7.5%)
PL to the L	3 (15%)	2 (10%)	5 (12.5%)
Hyperreflexia	1 (5%)	1 (5%)	2 (5%)
Arreflexia Bilat.	0 (0.0%)	1 (5%)	1 (2.5%)
Did not perform	1 (5%)	0 (0.0%)	1 (2.5%)
Total	20 (100%)	20 (100%)	40(100%)

Arrefl. Bilat.= Bilateral Arreflexia

PD to the R = Directional predominance to the right

PL to the R = Labyrinthine predominance to the right

PL to the L = Labyrinthine predominance to the left

Table 9. Distribution of elderly subjects according to groups A and B and conclusion of vectoelectronystagmographic exam

Group	A	B	Total
Normal	15 (75%)	13 (65%)	28 (70%)
SVP D to R, Comp	2 (10%)	2 (10%)	4 (10%)
SVP D to L, Comp	1 (5%)	1 (5%)	2 (5%)
SVP D to R, Desc.	0 (0.0%)	1 (5%)	1 (2.5%)
SVP I	2 (10%)	3 (15%)	5 (12.5%)
Total	20 (100%)	20 (100%)	40(100%)

SVP D to the R, comp. = Deficit peripheral vestibular syndrome to the right, compensated

SVP D to L, comp. = Deficit peripheral vestibular syndrome to the left, compensated

SVP D to R, desc. = Deficit peripheral vestibular syndrome to the right, decompensate

SVP I = Irritative peripheral vestibular syndrome

Discussion

Vertigo is a common complaint of older persons. As a presenting problem in primary care, it increases in frequency with age, so that it is the fourth most common complaint of geriatric patients and the most common complaint of persons 85 years of age and older. For the physician, it is difficult to assess because it is a symptom that cannot be directly measured and it can arise from a wide variety of causes. Vertigo can result from abnormalities of any system related to postural control, including the cerebral cortex, basal ganglia, brain stem, cerebellum, vestibular portion of the inner ear and eighth nerve, proprioceptive nerve endings in the neck or lower

extremities and their associated peripheral nerves, skeletal muscle, autonomic nervous system, and the cardiovascular system. Several recent studies have verified that vertigo rarely represents a life-threatening condition, but that older persons with persistent vertigo often limit their activities because of fear of provoking the vertigo, fear of falling, physical deconditioning, or depression secondary to the vertigo.

Older persons may accept dizziness as a symptom of aging without seeking treatment. Others may become alarmed, associating dizziness with life-threatening stroke or cardiovascular disease. Despite the etiology, however, dizziness represents a significant hardship for many elderly persons. Despite appropriate medical work up and interventions, the person's life might continue to be greatly affected by dizziness. In many cases, the diagnosis is not identified, or dizziness persists despite diagnosis and treatment. Quality of life may be impaired, and falls and other injuries may result.

Studies have shown that approximately one quarter to one third of elderly in the community are dizzy.^{11,12} One study showed that 1 in 10 respondents suffered from current, handicapping dizziness.¹³ Many patients report dizziness to their primary care provider (PCP), and 5% to 10% of new primary care visits are for dizziness.¹⁴

In our study, we detected higher incidence of vertigo complaint in subjects in group B. We may infer that the complaint of vertigo was less frequent in those that presented an active life, who had social, physical and intellectual activity. The results we found confirm the studied literature in which it was reported that vertigo is a symptom that affected 61% of all people aged over 70 years, present in 50% to 60% of the elderly people who live at home or in 81% to 91% of the elderly seen in geriatric outpatient units. The highest prevalence of vertigo in elderly subjects would be owed to high sensitivity of auditory and vestibular systems to clinical problems located in other parts of the body and to the process of functional deterioration of these systems resultant from aging.¹⁵

The tinnitus complaint had its higher incidence also in Group B subjects. Thus, similarly to the vertigo complaint, we could infer that the incidence of tinnitus complaint is higher in subjects that have little physical, social and intellectual activity. The results were similar to those found in the studied literature that showed incidence of tinnitus of about 79.4% in the geriatric population. The statistics of the National Institute of Health (USA)¹⁵ demonstrated the prevalence of tinnitus complaints (17%) in the population of patients that came to the institution, especially the elderly.

As to presence or absence of hearing loss complaint, even

though there was no statistically significant difference between the groups, we could observe that Group B presented higher values than Group A. This study is similar to the studied literature because it shows prevalence of hearing loss complaint of 13% of the population that go to institutions, especially to the elderly. 15

For Spontaneous (opened and closed eyes) and Directional Nystagmus, we observed absence of both types in all studied elderly subjects, similar to many previous studies. As to pendulum tracking test, we could observe that both for horizontal and vertical tasks, most of the elderly presented type II pendular nystagmus. We also detected high incidence of type III pendular nystagmus, especially in Group A.

Horizontal optokinetic nystagmus was symmetrical in most of the elderly subjects, in both groups, knowing that Optokinetic nystagmus in general is symmetrical and present gains in the normal range or is slightly decreased in peripheral vestibular pathologies.

As to the results obtained in PRPD - Peri-rotation nystagmus - we observed that only 5% of the assessed elderly had abnormalities to this type of nystagmus, which was similar to other studies that showed abnormalities in only 2.9% of the patients, characterized by the directional predominance of peri-rotation nystagmus.

The Caloric test - post-caloric nystagmus - produced most normal reflex results among the elderly; however, there were a considerable number of cases that had abnormal result in the test, and the most frequent finding was labyrinthine predominance. This result is similar to that of other studies, which stated that unilateral hyporeflexia of post-caloric nystagmus was a common affection to vestibular assessment of elderly patients. 16

The results obtained from the vestibular assessment carried out with computerized VENG demonstrated that most elderly subjects presented normal diagnosis. However, there were some cases of vestibular affections in the elderly, with similar proportions of deficit peripheral vestibular syndrome and irritative peripheral vestibular syndrome.

We did not observe any pathognomonic signals of central affection in the vestibular exam.

Conclusion

- Vertigo has major impact in the elderly, which can lead to reduction of their social autonomy, given that they have to reduce their daily life activities, because of the predisposition to falls and fractures, bringing suffering, body immobility, fear to fall again and high costs to the healthcare system.

- Vertigo, tinnitus and hearing loss largely affect elderly subjects, especially the ones that do not have an active life, as opposed to those that perform different activities in elderly groups.

- vestibular disorders, detected by vectoelectronystagmography were similar in both studied groups.

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Original Contribution/Clinical Investigation
Serum Lipid Levels in Tehranian people

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ABSTRACT

Introduction: This research was conducted to investigate serum lipid levels of Tehranian people.

Materials and Methods: 2000 participants' ages more than 60 years (1198 females and 802 males) who were living in Tehran, selected by random sampling process. Data, in the cross - section study (Nov. 2000 to March 2001) were used to determine Serum Lipid Levels : Total cholesterol (TC) , High - density lipoprotein cholesterol (HDL - C) , Low - density Lipoprotein Cholesterol (LDL - C), and Triglycerides (TG), Samples were Fast at least (12 - 14) hrs , the values were analyzed by sex and age.

Results:

- Mean Serum Triglycerides (TG) Concentration of older people above 60 years was 181 mg / dl; TG was significantly greater in Females than males (187 vs. 173 mg / dl, $P < .000$).
- Mean Serum TG Concentration in elderly Females decreases with increasing age , this declining was significant , (TG of decades 7 , 8 , 9 were 192 , 182 , 144 mg / dl - $P < .001$).
- Mean Serum TG Concentration in elderly males decreases with increasing age. But this declining was not significant (decades 7, 8, 9 were 179, 166, 153 mg / dl).
- Mean Serum Total Cholesterol (TC) Concentration of older people above 60 years was 218 mg / dl. TC was significantly greater in females than males. (228 vs. 203 mg / dl, $P < .000$).
- Mean Serum TC Concentration in elderly Females decreases with increasing age , this declining was significant , (TC of decades 7 , 8 , 9 - were 230 , 227 , 210 mg / dl - $P < .004$).
- Mean Serum TC Concentration in elderly males decreases with increasing age , this declining was significant , (TC of decades 7 , 8 , 9 , were 206 , 198 , 193 , $P < .004$).
- Mean Serum HDL - c Concentration of older people above 60 years was 47 mg / dl , HDL - c was Significantly greater in Females than males (49 vs. 44 mg / dl $P < .000$).
- Mean Serum HDL - c Concentration in elderly Female had no Significant Changes with increasing age (HDL - c. F decades 7, 8, 9 were 50, 48, 46 mg / dl).
- Mean Serum HDL - c Concentration in elderly male had not Significant Changes with increasing age (HDL - c of decades 7 , 8 , 9 , were 44 , 44 , 44 mg / dl).
- Mean Serum LDL - c Concentration of older people above 60 years was 138 mg / dl. LDL - c was significantly greater in females than males (145 vs 128 mg / dl $P < .000$).
- Mean Serum LDL - c Concentration in elderly Female had no Significant Changes with increasing age (LDL - c of decades 7, 8, 9 were 144, 147, 141 mg / dl).
- Mean Serum LDL - c Concentration in elderly male had no significant Changes with increasing age (LDL - c of decades 7, 8, 9 were 130, 128, 118 mg / dl). 63.4% of Population had TC values above 200 mg / dl, and 55.8% had LDL - c values above 130 mg / dl, that due to NCEP guidelines is a high risk group for cardiovascular disease (CVD).

Conclusion: Because CVD events are increased by elevated Total Cholesterol and LDL Cholesterol, and high prevalence of Lipoproteinemia in older people in Tehran, design and execution of Comprehensive Geriatric assessment is

needed to reduce patients at high risk of Cardiac events.

Keywords: Lipids - Lipoproteins, Tehran.

1 - HDL - c = High Density Lipoprotein

2 - LDL - c = Low Density Lipoprotein

3 - NCEP = Nation Cholesterol Education Program, 4 - CGA = Comprehensive Geriatric Assessment

INTRODUCTION

The major cause of death and handicap among adults is coronary blood vessel heart disease. [3-7] In epidemiology studies between Atherosclerosis coronary blood vessel heart disease and the levels of Lipoprotein serums, the relationship has been clearly and distinctly defined [8-10]. Although, there is much evidence regarding the fact Atherosclerosis begins from childhood [11-12] it may be that Atherosclerosis could be taken into account as the inevitable result of adulthood. Most adults have one or more risk factors for coronary blood vessel heart diseases (CAD) [13]. Occurrence of elements of danger, or risk factors, is reduced slightly after the age of 75 [14]. Of course this reduction may be related to natural survival, as people of higher risk factors will die in lower ages.

Despite this reduction, with ageing, the total mortality risk and morbidity due to coronary blood vessel heart disease (CAD) increases in adults. Danger elements related to heart and coronary diseases in adults mostly include lipoprotein disorder, smoking, blood pressure level increase, and diabetes [15]. Preventative philosophy of danger elements related to coronary blood vessel heart disease, exists for adults as it does for other age groups. In the Bronx ageing study, the HDL cholesterol levels of less than 30 mg /liter dc in men between 75 to 85 years of age, was observed alongside the increase in MI and death rate of the group. At the same time, the LDL cholesterol level was more than 171 mg/liter dc in women of the same age group which led to a higher increase in MI and death rate. [16] People over the age of 65 with coronary blood vessel heart disease are the main group with lipid disorders. The high level of blood cholesterol in this group generally causes an increased risk of a return of MI in men and women. In the Framingham study, the total cholesterol levels higher than 275 mg/liter dc, increase the risk of a return of MI and death due to coronary disease by more than 4 times.

Also, the general risk of death in this group as compared with adults was total cholesterol less than 200 mg/liter dc which is 3 times higher [17].

Such observations and the results, clearly show the importance of tertiary prevention in coronary blood vessel heart disease adult patients through the reduction of blood lipids.

Such extensive and scientific studies on Dislipoproteine-

mia in children and young people of the city population of Tehran [1], and also the Lipid surface serum studies of the adult population of Tehran [2] has been carried out by Azizi and associates. But, until the present time, there have been no extensive studies in the area of the occurrence of dislipoproteinemia in adults over the age of 60. The aim of this research is the study of serum lipoprotein concentration, total cholesterol - triglyceride- HDL and LDL, as well as allocation of amount of occurrence of dislipoproteinemia in adults over the age of 60 and residing in Tehran. This study has been carried out on 2000 people over the age of 60, who have referred to clinical and laboratory centers within the city of Tehran between the period of Nov. 2000 and March 2001.

MATERIALS AND METHODS

According to observational design, a cross-sectional study of the descriptive type among referrals to various clinical and laboratory centers within the city of Tehran - (Northern- Southern- Eastern- Western areas) was carried out.

2000 people 60 years of age and above were chosen at random and studied. The dependent factors in this age study were (independent low-association variable) and sex (named sexual status variable) - and the dependant variables in this study were total cholesterol (Tc), HDL, LDL and triglyceride (TG).

Total serum lipoprotein concentration, HDL, LDL and TG was collected if fasting samples were collected.

In this study, 2000 people of 60 years and over, of which 1198 were old women (59.9%) and 802 were old men (40.1%) - and the study took place between the period of November. 2000 and March 2001.

The natural limit of cholesterol concentration LDL-c from the viewpoint of the possibility of occurrence of coronary blood vessel heart disease, has been considered according to the American cholesterol training programs (NCEP) [18]. In consideration of this, total cholesterol concentration of less than 170 mg/liter dc is considered as natural; between 172 -200 is considered as relatively dangerous, and more than 200 mg/liter dc as highly dangerous for those having coronary blood vessel heart disease. Also, for LDL amounts less than 110 mg/liter dc

are considered as natural; between 110 - 130 is considered as relatively dangerous, and more than 130 mg/liter dc as highly dangerous.

The groups studied were divided into two age groups of male and female- and in each group, a division was made according to each decade of age, meaning that within the female or male groups, 70s age group, 80s and 90s and over age groups were considered. This statistical analysis was carried out on a computer, utilizing the Statistical Package For Social Sciences (SPSS) software and the average results were displayed within the article, charts and tables as deviation of average and percentages. The age definitions were specified within the age grouping divisions in each of the decades of age in the case of total cholesterol concentration - LDL - HDL- and TG. The average amounts were understood after comparison through variance analysis of the two sexes and within the age groups, with the meaningful p value less than 5%.

RESULTS

Age and sex distribution - among the 2000 people of 60 years and over, 1198 were old women (59.9%) and 802 were old men (40.1%) - in the female group 62.9% were within the 70s age range, 32.2% within the 80s age range and 5.5% within the 90s and over age range. In the male group 61.6% were within the 70s age range, 31.9% within the 80s age range and 6.5% within the 90s and over age range.

Levels of Serum Lipoprotein:

TG:

The average concentration of TG among the total population studied was 181.67 mg/ liter dc with a minimum of 35 and a maximum of 980 mg/liter dc - in the female group the average TG concentration was 187.3 and in the male group 173.25 mg/liter dc, the conclusion of this variation was ($P < .000$).

In the female group the average concentration of TG in the 70s, 80s and 90s divisions were 192.78, 182.79, and 144.84 mg/ liter dc respectively, and the reduction in each decade has the following statistical meaning: ($P < .001$). In the male group the average concentration of TG in the 70s, 80s and 90s divisions were 179.07, 166.13, and 153.04 mg/ liter dc respectively, and the reduction in each decade, where we observed the swift reduction of TG with the increase in age. Therefore, this reduction is not statistically meaningful.

TC:

The average concentration of TC among the total population studied was 218.61 mg/ liter dc with a minimum of

101 and a maximum of 557 mg/liter dc. In the female group the average TC concentration was 228.87 and in the male group 203.24 mg/liter dc. The conclusion of this variation, in statistical terms was ($P < .000$). 63.4% of the total TC population was above 200 mg, 23.5% had TG levels of 160 - 200 mg and 12.9% of the TC population was less than 120 mg.

In the female population, the average TC levels in the 70s, 80s and 90s divisions were 230.97, 227.52, and 210.59 respectively, which has the following statistical meaning: ($P < .004$). 73.1% of the female TC was above 200, 18.9% of the TC was 110-200 and 8% was less than 170 mg/liter dc.

In the male population, the average TC levels in the 70s, 80s and 90s divisions were 206.69, 198.65, and 193.00 respectively, which has the following statistical meaning: ($P < .004$). 49.1% of the male TC was above 200, 30.4% of the TC was 170-200 and 20% was less than 170 mg/liter dc.

HDLc:

The average HDL concentration among the total population studied was 47.35 mg/ liter dc with a minimum of 15 and a maximum of 97 mg/liter dc - in the female group the average was 49.40 and in the male group 44.31 mg/ liter dc, the conclusion of this variation among the two groups was ($P < .000$).

10% of the female population had HDL levels of less than 32 mg and 25% of the main population had HDL levels of less than 34 mg/liter dc.

In the female group the average HDL concentration in the 70s, 80s and 90s divisions were 50.13, 48.04, and 46.81 mg/ liter dc respectively, which reduction is not statistically meaningful.

In the male group the average HDL concentration in the 70s, 80s and 90s divisions were 44.14, 44.73, and 44.03 mg/ liter dc respectively, and the reduction is therefore not statistically meaningful.

LDLc:

The average LDL concentration among the total population studied was 138.70 mg/ liter dc with a minimum of 32 and a maximum of 441 mg/liter dc. In the female group the average was 145.18 and in the male group 128.97 mg/liter dc- This difference is therefore statistically meaningful: ($P < .000$). 62.2% of the female group population had over 130 mg of LDL, while 19.6% had 110 - 130 mg of LDL, 18.2% had less than 110 mg/liter dc of LDL. In the male population, 46.2% had over 130 mg of LDL, while 22.8% had 110 - 130 mg of LDL, 13% had less than 110 mg/liter dc of LDL.

Within the total population studied (total of male and female), 55.8% had over 130 mg of LDL, while approximately 20.9% had 110 - 130 mg of LDL, and 23.3% had less than 110 mg/liter dc of LDL

Charts 1, 2, and 3 show the results of these studies.

DISCUSSION

Of the population studied, 63.4% of the population had TC of above 200 mg/liter dc, 55.8% of the LDLc population had over 130 mg/liter dc. According to the new plans of the US Cholesterol Training Program (NCEP), these groups are considered as the highest risk groups of coronary blood vessel heart disease and must be supervised and treated.

The National US Nutrition and Health Program (NHANES) has successfully been able to reduce blood lipid levels in a long-term program; [19]. According to the announcement of this centre the average TC of people between the ages of 65 and 75 in 1960 was 230 mg/liter dc and in 1998 it reached 218 mg/liter dc. Also, the average concentration of TG in women between the ages of 65 and 75 in the same period was 266 and 234 mg/liter dc respectively. According to the information from the centre, the average concentration of Blood Lipids increases from the third decade to the seventh or eighth of life, and we are faced with the reduction in concentration of Blood Lipids generally after the age of 75. This reduction in lipid concentration may be related to the elimination of high cholesterol populations, which may be due to death, or perhaps from malnutrition of the elderly, or because of the illnesses accompanying advanced age periods [19]. Of course the reduction of blood TC at a level of less than 160 mg/liter dc which is called hypo-cholesteramine, is considered a danger to adults and according to their studies made, death from non-coronary or heart cases within this group is 40 to 50% higher than the elderly with equivalent cholesterol levels - the greatest reason for death among the hypo-cholesteramine groups have been homogenic intracranial - blood and lymph cancers - COPD, hepatic diseases and Sirius?serous diseases. [14] And therefore hypo-cholesteramine has recently in itself become considered as a marker for hidden cancers. According to (NHANES) III data, the average concentration of TG in men of the 20-34 age group was 112 mg, in the 55-64 age group this amount was 162 mg, and in the 65-75 age group it was 159 mg, which increased with the increase of age, and from approximately the age of 65 it began to decline. In women of the 20-34 age group the average TG concentration was 101 mg, in the 55-64 age group this amount was 164 mg, and in the 65-75 age group it was 155 mg/liter dc.

The strong reduction of blood TG can also be observed in women after the age of 65, and such changes in relation with TC, HDLc and LDLc are reported as follows:
Average TC concentration -

We also observed the reduction in TC concentration after the age of 65.

The average LDL concentration in men of 55-64 is 142 mg/liter dc and in the 65-75 group it is 140 mg/liter dc, while in women of 55-64 it is 145 mg/liter dc and in the 65-75 group it is 147 mg/liter dc, and even the women about 75 years of age this is also 147 mg/liter dc and therefore in the female group the average concentration of LDLc does not show any reduction with increase of age.

The average HDLc in men of 55-64 is 47 mg/liter dc and in the 65-75 group it is 45 mg/liter dc, while in women of 55-64 it is 56 mg/liter dc and in the 65-75 group it is 56mg/liter dc. There is no reduction also observed here. At the same time, it has become clear that in all the Lipid divisions, the average concentration level is higher in women than in men.

According to the II program of (NCEP ATP), over 2 million people above the age of 65 suffer from coronary blood vessel heart disease and over 3.1 million people over the age of 65 suffer from increases in blood lipid levels without heart problems, who must be under supervision and treatment.

Based on the research carried out by Azizi and associates [1] in Iran, the average concentration of blood lipids in people under the age of 19 is as follows:

TG = 103 mg/liter dc TC = 170 mg/liter dc
LDLc = 105 mg/liter dc HDLc = 45 mg/liter dc

Also, this average for adults between 20-65 years; [2], are respectively TG = 173 mg/liter dc, TC = 210 mg/liter dc, LDLc = 133 mg/liter dc, HDLc = 43 mg/liter dc, which clearly shows the increase of lipids with the increase of age.

In our study, which was carried out on people from the age of 60 and above, the average of blood lipids were in order:

age of 60 and above, the average of blood lipids were in order:

TG = 181 mg/liter dc TC = 218 mg/liter dc
LDLc = 138 mg/liter dc HDLc = 47 mg/liter dc

This again shows the trend of lipid increase with the in-

crease of age. But in consideration of this average in each decade, [7,8,9] as is shown in chart 2 and 3, the highest amount is related to the 70s, at the age of 65 and later, and for each decade, in both men and women, a decrease in the concentration of lipid levels is expected.

In chart 1, the average concentration of all blood lipids in women is more than in men.

And this difference is meaningful in all blood lipid divisions as $P < .000$.

In both age groups also, in each decade, we are faced with a reduction of blood lipids, which reduction is meaningful in the TC division of men, and in the female group, the TG and TC divisions are meaningful. The changes in the HDLc and LDLc levels have a changing trend of increase in each decade of age which is of course not considered meaningful. And probably the most changes with increase of age is related to a reduction in the blood TG concentration and this factor has had an effect on the reduction of TC concentration in elderly people.

In studies carried out by Ghanbarian and associates, [20] on 414 women and 541 men above the age of 65 from the study group of Lipids and glucose in Tehran, in the main group 24 - 29 - 25 - 27 % respectively had < 240 TC and < 200 TG, and < 160 LDLc, and < 25 HDLc mg/liter dc, and the same statistics for the female group were 45, 40, 50, 12% respectively.

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In our studies which were established according to the new guidelines by (NCEP), in which a TC level of about 200 mg, and LDLc levels above 130 mg are considered as highly dangerous for coronary blood vessel heart diseases. In the male group above the age of 60, the amount is 49.3% of cholesterol above 200 mg/liter dc and 46.2% LDLc about 130 mg/liter dc.

In the female group above the age of 60, the amount is 73.1% of cholesterol above 200 mg/liter dc and 62.2% LDLc about 130 mg/liter dc, which is considered as the most dangerous group in the opinion of CAD.

Although, with the comparison of the average concentration of blood lipid of people studied by us, no special differences were seen compared with the averages given by (NHANES) III data, it seems that in both population groups under study, the amount of female blood lipids is higher than the male population, and by taking into account the newly presented criteria for the omission of coronary blood vessel heart disease factors, a high percentage of people are considered by CAD to possess the risk factor for contracting Dislipoproteinemia. If each 1% reduction of LDLc in the blood creates a 2% reduction in death due to heart diseases, the results produced from specific attention paid to Lipoprotein serum concentration levels in adults facing the dangers of coronary diseases may be reflected on.

(NHANES) III: National Health and Nutrition Examination Survey

(NCEP ATP): National Cholesterol Education Program - Adult Treatment Panel

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Chart 1

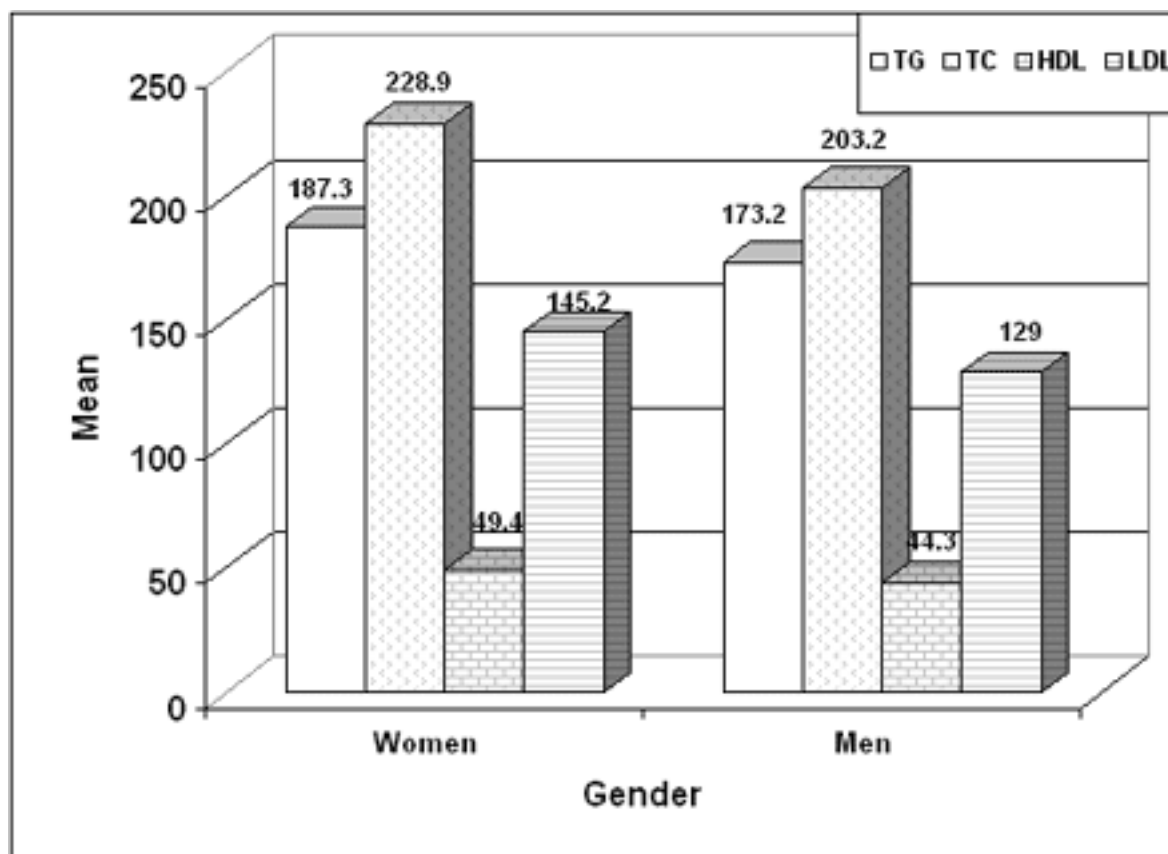


Chart 2

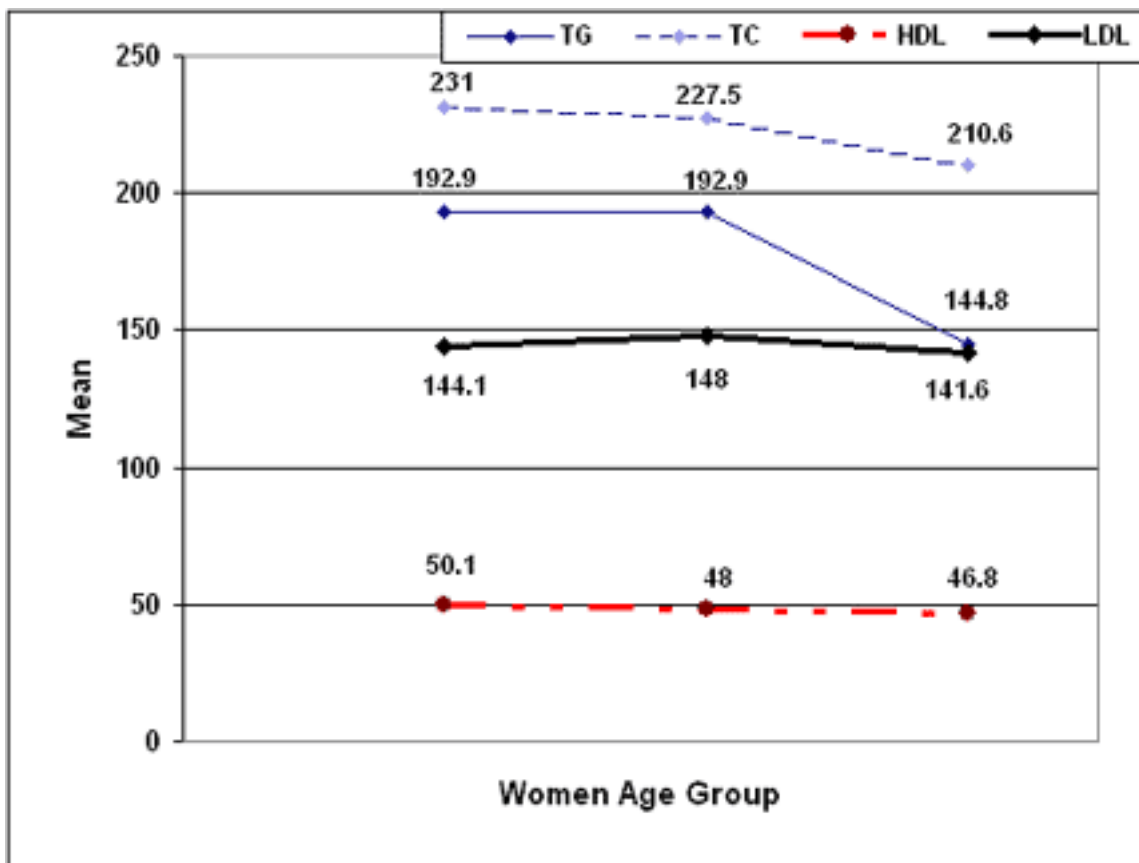
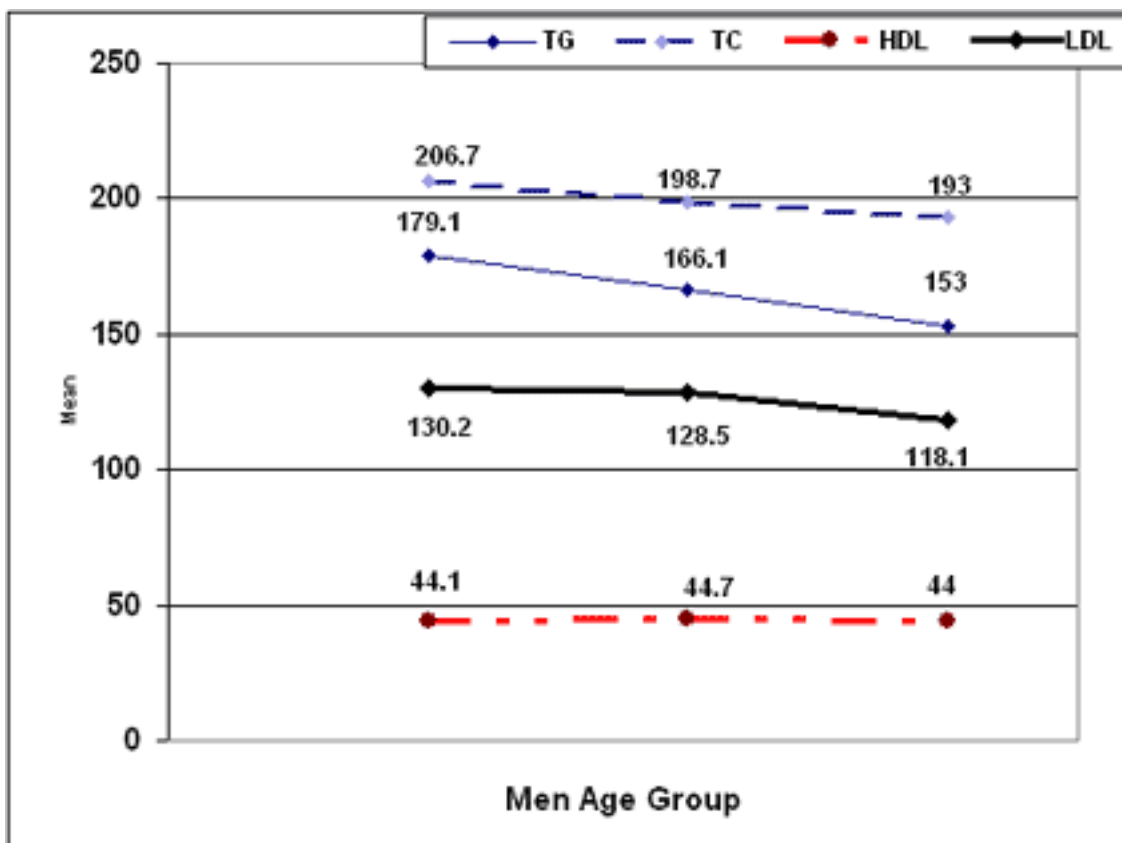


Chart 3



Pre-operative Evaluation of the Elderly

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Key words. Adverse events, informed consent, risk management, evaluation

Introduction

Most countries are introducing risk management and quality assurance programs for surgical patients. High levels of adverse events affect surgery in most large hospitals around the world, and to date, few preventive or control measures on an organizational basis, have been implemented to avoid such occurrences.

A Canadian Study (1) reports that the Adverse Event occurrence rate is 7.5 per 100 hospital patients. Of these 36.9% involved something preventable occurring and 20.8% resulted in death.

The Canadian data showed that the overall incidence rate of adverse events of 7.5% suggests that, of the almost 2.5 million annual hospital admissions in Canada, about 185,000 are associated with an adverse event and close to 70,000 of these are potentially preventable.

Although men and women experienced equal rates of adverse events, generally patients who had adverse events were significantly older than the norm - (mean age [and standard deviation] 64.9 [16.7] v. 62.0 [18.4] years; $p = 0.016$). (1)

This means that it is even more important to evaluate the elderly patient when considering surgery.

Similar reports globally have led to the development of quality assurance programs aimed at review of adverse events, prior to surgical admissions, across a range of

healthcare issues aimed at better patient outcomes, improved communications and reporting, less morbidity and mortality and consequent saving of health spending.

Areas covered by these programs, ideally include: adverse event management, clinical/practice audits, informed consent, patient communication and satisfaction, management of serious illness, complaints management, emergency management, infection control, patient documentation, practice medication management, reminder systems, sharps management, waste management.

Coupled with these general issues, are specific issues related to each individual patient.

This paper looks specifically at issues concerning elderly surgical admissions, and these include: general health, language issues, informed consent, family support, pain management and follow up. It is also important to provide discharge summaries to the patient's family and referring doctor as many elderly patients are on multiple medication and have concomitant illness. It is also incumbent on the surgeon to ensure that he/she has a full patient history from the referring doctor. A full history of course should be taken on first presentation to the surgeon as well.

The following quality assurance checklist can be used as part of the evaluation of elderly patients, for surgery: Review prior adverse events associated with this type of surgery in your practice. Identify the type and cause of adverse event and ensure a system is in place to prevent a reoccurrence.

Take full medical history including full medication history. If a prescription is written as part of post-operative management, discharge summaries must be sent to the referring doctor or the patient's family doctor.

Patient is to be informed of all of the risks of any treatment. Discuss pros and cons and if the patient is considered not to be capable of making an informed decision, family members or carers accompanying the patient should be fully informed.

Provide clear, concise, written information if possible.

Obtain written consent for all invasive surgical procedures. Consent includes warnings about driving, and signing and witnessing documents.

Full contact details including next of kin should be sought.

Enquire as to availability of patient support and home help immediately after dismissal.

If a patient refuses a recommendation for treatment this is to be documented in the patient's medical record.

Advise patients of potential drug reactions or other medical complications.

Have procedures in place for patients with communication or language needs.

Diagnosis and treatment options need to be discussed directly with the patient in a clear and comprehensible fashion.

Encourage patients to ask questions and discuss any areas of concern.

If the patient has any of the following serious illnesses, symptoms and treatment must be known:
Asthma, cancers, diabetes, heart disease, HIV/AIDs, meningitis, meningococcal, mental illness.
Investigations regarding the possibility of these in patients who are at risk of such, should be managed proactively.

Applying informed consent and risk management to elderly hernia patients

As a general surgeon, with a focus on hernia surgery, I provide my own audit as a way of introducing risk management and improving the quality of informed consent. In Victoria, Australia, where I practice occurrences of harm to patients undergoing surgical procedures is on the rise. Figures just released show that of 340,000 cases of

medical errors and mishaps, in the previous year, 218,000 of these occurred after patients underwent surgery. This was an increase of 20,000 occurrences, compared to the previous year. Most of these 'adverse events' were in public hospitals.(4)

In our clinic, our age break up shows that in the 70-80 year old group - 49% of hernia operations are performed as day surgery and even in the 80+ year old group over 50% are performed as day cases (under local anaesthetic infiltration).

This avoids a general anaesthetic, which is not well tolerated in these age groups.

Mesh is used in all operations apart from two cases where it was refused by the patient (after informed consent as to the merits of its use)

The percentage of day cases at our clinic is high, the remainder of the patients mostly stay for one night only and it is rare to have a patient stay more than one night.

Patients who are immobile with Parkinsons or have no carers at home are the longest stayers, with admissions of 3-4 days.

I prefer hospitals with the availability of coronary care or other emergency facilities. While these were not needed in our patients, many of the patients had had previous coronary surgery or cardiac conditions so felt more at ease at such a facility.

Counselling is given regarding pain relief post operatively.

All patients are given information on herniae to read prior to surgery.

After the paper work has been completed and surgery arranged - at the same first visit usually - the patient is seen to explain the procedure further. The risks of surgery are explained and a sample of the Prolene meshes, we use, are shown to the patient.

Hernia surgery

These patients require careful assessment to decide whether surgery is indicated and if the surgery is feasible in a day surgical setting. More so in the elderly because these patients may not have Private Insurance. An increasing number of non-insured patients elect to have their hernia surgery in a non-public (private Day Surgery Centre). The cost in a private Day Surgery Centre is significantly less than in a full hospital for the non-insured.

As with any other surgery careful pre-operative evaluation, skilled technique and proper follow up are mandatory. It is the pre-operative evaluation and proper planning which allows the skilled surgeon to be successful with proper planning reduced post operative problems. Eighty per cent of all patients are treated as a day case. Fifteen per cent of hernia patients are bilateral hernias and ten per cent of the total number of hernias carried out, are for recurrent hernia operations. Fifteen percent of patients are non-insured and are treated at the day surgery only facility (SJMPH). The majority of bilateral inguinal hernia repairs are also treated as a day case.

The most common age group for surgery is in the 50 - 60 year old.

It has been noted in the pre-operative assessment of these patients that some were infirm, or had Alzheimer's disease or Parkinson's, making the post-operative management more difficult. Other factors might have been multiple medications together with a lack of home facilities and in some cases the need to have anti-coagulants supervised.

It is noted in comparing our practice audits that there is from year to year an increasing number of cases done as a day case and an increasing number of elderly patients.

A thorough history and examination often detects unsuspected abnormalities such as co-existent carcinomas or bleeding tendencies. These problems are more common in the elderly.

Elderly patients often need to be brought back for a second consultation after assessing all of the relevant factors before deciding finally on surgery. This gives time to communicate with relatives and other health professionals about the possible risks as well. Surprisingly in hernia repair in my practice, with the elderly, very serious adverse events are rare.

As hernia surgery is not always mandatory the pros and cons of surgery must be weighed up before deciding upon proceeding. In a large number of cases the patient will not come to any harm just leaving the surgery. However the elderly patient often experiences discomfort and is concerned about the possible need for emergency surgery at a later stage when they are more fragile. This risk of strangulation versus the risk of not operating needs to be considered. Due consideration must be given to the elderly patient respecting their decision making. Discomfort which can be inhibiting their joyful activities does lead them to request surgery.

Risk management

This involves identifying problems, which might occur prior to the surgery, during the surgery, the immediate post-operative period of the first 24 to 48 hours and then longer-term issues, that is, review of adverse events.

The main pre-operative consideration may be the need for emergency or urgent surgery. The patient who has a painful hernia, or a hernia which appears to run the risk of strangulation, should be warned of this.

An assessment of the fitness for surgery is carried out and this involves assessment of many systems.

We believe in the elderly especially, that the procedure should be carried out under Local Anaesthetic and light sedation. A mesh reinforcement is routinely used. For this technique one needs to take into account whether the patient can lie comfortably on the operating table - emphysema, Alzheimer's, cardiac disease and shortness of breath and even arthritis may make it difficult for the patient to lie comfortably during the procedure. This needs to be evaluated.

As well factors, which may lead to bleeding during the procedure or other difficulties, should be considered. A careful check is required of the patient's medication. Aspirin is commonly routinely used in the elderly. Anti-platelet medication for patients with a past history of stroke or cardiac disease is increasingly common and there are many patients with a past history of cardiac valve or deep venous thrombosis who are on Warfarin. These must all be fully assessed and a decision made in consultation with other treating specialists as to the best approach. The Surgeon does need to understand the principles of the management.

In addition many patients require an antibiotic cover for the procedure. The appropriate antibiotic needs to be chosen in consultation with the treating Physician. This minimises the risk of infection of prostheses or valves particularly when a cardiac murmur is present. Manual orthopaedic replacements are advised to have an antibiotic cover.

Unusual complications have to be assessed in light of the patient's history. For example especially in the elderly there may be urinary problems and there is the small risk of retention of urine occurring following surgery. This risk needs to be explained and the possibility that this may lead to surgical intervention in itself.

Other rare risks such as damage to the testis - particularly when there is only a unilateral testis present, must be mentioned, particularly when the hernia being operated

upon is a recurrent hernia.

Thus potential risks of surgery must be explained - including deep venous thrombosis and pulmonary embolisms.

We believe that surgery under local anaesthetic with light sedation reduces these risks to the elderly.

There are specific other issues related directly to the surgery, these are the risk of intra-operative and post-operative haemorrhage which may require re-exploration. These are minor degrees of this such as severe bruising or swelling of the scrotum.

The risk of infection - less than 1% and the management of this if it were to occur, needs to be explained. Seroma formation should be explained to the patient prior to the procedure as with epigastric hernia or umbilical hernia, this occurs more commonly. Some discussion is required regarding the mesh that is to be used. Whilst the need to remove the mesh because of infection or other problems is rare, there are occasionally problems associated with a mesh. It should be explained to the patient that the majority of Surgeons believe that mesh reduces the incidence of recurrence of the hernia significantly, but it does carry its own risks, as it is a foreign body, which can become infected and may require removal. The mesh is often fixed into position with staples. Non-ferrous staples are used and these have no problems for magnetic resonance imaging.

Thus it can be seen that there are many issues to be discussed with all hernia patients, all surgical patients, and specifically with the elderly patient. The elderly patient is more prone to falling in particular.

Explanation of the Post -Operative Course

This must be detailed to the patient prior to the operation and after the operation, and to the relatives.

For day surgery the patient is usually able to be discharged home within an hour or two of the surgery and must be accompanied by a responsible person on the way home and for the first night.

Advice about analgesia is given - together with some mention of the possible side effects such as constipation, abdominal pain, ringing in the ears etc.

The patient is warned that they can feel faint on the day of surgery or the following day and should be accompanied.

It is our practise to have the patient ring myself personally the day following surgery to let me know how they are.

They often need reassurance about the small amount of blood on the dressing, the management of pain, the management of dizziness and their bowels.

One factor taken into account in auditing day surgery hernia repair is the need for readmission on the night or the night following surgery. The incidence of this is extremely low but does occasionally lead to issues. Bleeding is rarely a problem. Occasionally fainting with extra systoles or bradycardia or vasovagal reaction can be a problem and cause alarm leading to the patient representing to hospital. The patient should be advised about what to do under these circumstances.

Return to normal activity is an issue that patients want to hear more about. They want to know how much they can do, how much they can lift. This can be best explained at the first post-operative visit when their recovery has been assessed.

I explain to all patients that despite doing thousands of operation in exactly the same way, the individual response is different. I explain about the standard deviation curve, and also pain, which usually gradually gets better but there can be spikes of pain with activity or for no reason.

Continuing post-operative pain following hernia surgery has been mentioned as a problem because of nerve damage, tension, haematoma formation, or for unknown reasons. The subject of meshoma with the mesh forming a painful mass has been broached.

It should be explained to all patients that surgery does not always give perfect results.

We have surveyed the analgesia requirements following hernia surgery - a significant number of patients - 41 out of 310 patients, required no painkillers. 47 required painkillers for only one day. 20 patients required painkillers for more than four days. Many patients say that pain is not a problem.

The average time in theatre for a single sided inguinal hernia repair is 35 minutes. More and more patients are overweight and this adds to the technical difficulty of surgery and occasionally the need to convert the Local Anaesthetic technique to a General Anaesthetic. The Local Anaesthetic technique has been successful even for obese patients or the extremely anxious. In fact now with obese patients we advise weight loss prior to the surgery

and often call in an Endocrine Consultant to manage this for a few weeks prior to surgery. This would be for the over 100 kilogram patients of short stature.

Anaesthetists have become more experienced with the Local Anaesthetic and sedation technique. The majority of them including my two main Anaesthetists, prefer to have the patient sedated enough at the initial injection of Local Anaesthetic, so that the patient does not experience any needles going in. The patient then slowly arouses and is able to wiggle his toes around or cough or strain during the procedure as required. Many of the patients enjoy the conversation with the staff during the procedure. Many of the patients have no recollection of the event despite having talked voluminously during the procedure.

Post - Operative

Patients usually go home within one to two hours following the procedure with written and explained instructions about such things as pain relief and the dressing.

All patients are seen in the week following surgery

We have surveyed the amount of analgesia required following hernia surgery:

A significant number of patients (11%) require no pain killers with most of the remainder on pain killers for only one day. 4% required pain killer for more than 4 days.

While there seems to be more pain after bilateral inguinal hernia repair this does not appear to have affected the number who can be treated by day surgery.

We have seen significant infections post operatively, where drainage and antibiotics were instituted. There were additional patients (a few) with erythema which quickly settled down on use of antibiotics

The risk of infection seems higher for umbilical and epigastric hernias. The seromas were aspirated without incidence. Occasionally the seroma persisted for two to three weeks causing anxiety.

Fainting following procedures is rare but can be a bother the following day when the patient goes to the toilet. Incidence of this has decreased and day surgery is not contraindicated because of this. But it is mandatory with day surgery, that the patient has a responsible person with them the night of release from day surgery., who should also be present the following day.

We have had one case of coronary embolism, which was severe. The patient made a full recovery but required drainage of the haematoma due to the anticoagulation

for the embolism. This patient had a deep venous thrombosis some ten years previously and was asymptomatic. The embolism was two days after the operation. Another patient required readmission for acute retention of urine, which led eventually to a TUR. Deep venous thrombosis and acute retention of urine are rare following day surgery hernia repair under Local Anaesthesia.

In my years of auditing hernia results, the incidence of DVT - let alone pulmonary embolism - is rare, possibly one in the last eight years. In a similar way urinary problems after repair under Local Anaesthetic is also rare.

Other uncommon problems were that one patient had pain and a lump following repair of a strangulated epigastric hernia and the mesh was removed successfully and the patient was able to return to work soon after without problems. Another patient complained of neuropathic type pain persistently. This was re-explored and a staple had been found to be clipped around the genital division of the genitofemoral nerve. Removal of this clip removed the pain.

We believe that hernia repair under Local Anaesthetic and light sedation is the safest technique for repairing hernias. The incidence of general complications is low and the wound infection rate is in keeping or better with many other series.

We are pleased that so many patients are able to be treated as a day case, which has specific advantages. We found that we were able to treat many patients with multiple problems, as a day case or one night stay. We believe that the technique of Local Anaesthetic has contributed to these figures.

The use of mesh has become standard for many surgeons. There are numerous types of mesh in all forms and shapes. During the year I visited other clinics where different techniques were used and have adopted some of these as required for individual cases. I believe one should be able to use different techniques to repair a hernia as required by the circumstances.

There has been considerable debate regarding laparoscopic (keyhole) surgery for hernia repair versus the open technique. One advantage of keyhole surgery has been stated to be a quicker recovery. In my opinion, the figures, which I have on post-operative analgesia and return to work, are better than many laparoscopic series. In addition I believe the open technique is safer with less risk of major complications. The recurrence rate in experienced hands is probably not much different.

There has been considerable debate about the use of mesh causing increased local pain due to nerve irritation. This

has not been my experience.

Thus, after reviewing the figures I am particularly pleased with the results. Wound infection, when it does occur, is a problem. Other unexpected complications are also a concern - such as pulmonary embolism or acute retention. My auditing over the years shows that these rates are very low and I believe are much lower for those patients who have a General Anaesthetic.

This audit has highlighted some areas where problems could occur and we are taking whatever measures we can to avoid this.

However we must highlight that no surgery was without risks and there needs to be bounds in the decision making as to whether or not to operate on hernias in the elderly and infirmed. Certainly the safest method should be chosen. Particular care is required with the pre-operative assessment.

Dr Brygel invites readers to send any questions related to hernia surgery and he will answer all. Send letters to: mbrygel@netspace.net.au

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Home Health Care Team Members

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ABSTRACT

Home health care (HHC) is that component of a continuum of comprehensive health care whereby health services are provided to individuals and families in their places of residence for the purpose of promoting, maintaining or restoring health, or maximizing the level of independence, while minimizing the effects of disability and illness, including terminal illness.⁹ Even if HHC programs have been established as hospital-based programs for over the past ten years to solve the long-term occupancy of their hospital beds, it has just started in Saudi Arabia. There are no-community-based HHC services in the country.

The members of the home health care team may include: physician, nurse, medical social worker, home health aide, physician's assistant, psychologist, paid homemaker, dentist, rehabilitation personnel, dietician, optometrist, volunteer, friend, and family caregiver. Each professional from each discipline brings a special set of knowledge, attitudes, and skills to home care. The patient's needs and the requirements outlined in the home care plan are the bases of the level of involvement of each professional in the home care. There may be overlapping of functions because of patient's needs and the intermittent, part-time nature of professional home care services.² The home care professional is alone in the patient home with the patient, and must often provide, in addition to the planned professional interventions, a general view of the entire team's home care program. The shared tasks are brief assessment of the overall effectiveness of the comprehensive home care plan; assessment of patient and caregiver interactions and satisfaction with the home care program; identification of any new problem; notification of appropriate team member(s) for follow-up of new problems; and encouragement and reinforcement of instructions from other team members.² Each team's composition depends on each patient's needs and on its responsibilities to take care of these needs.

Key words. Home Health Care (HHC)

Introduction

Home health Care (HHC) is a formal, regulated program of care provided by a variety of health care professionals in the patient's home.¹ The unique aspect of home care is the nature of the collaborative team effort.² Each professional from each discipline brings a special set

of knowledge, attitudes, and skills to home care. The patient's needs and the requirements outlined in the home care plan are the bases of the level of involvement of each professional in the home care. There may be overlapping of functions because of patient's needs and the intermittent, part-time nature of professional home care services.² Unlike in the hospital setting where other team

members are readily around, the home care professional is alone in the patient home with the patient, and must often provide, in addition to the planned professional interventions, a general view of the entire team's home care program. The shared tasks are brief assessment of the overall effectiveness of the comprehensive home care plan; assessment of patient and caregiver interactions and satisfaction with the home care program; identification of any new problem; notification of appropriate team member(s) for follow-up of new problems; and encouragement and reinforcement of instructions from other team members.² Each team's composition depends on its responsibilities which each patient needs. A HHC team may include any of the following: physician, nurse, medical social worker, home health aide, physician's assistant, psychologist, paid homemaker, dentist, rehabilitation personnel, dietician, optometrist, volunteer, friend, and family caregiver.²

This article is a review of literature on the role of HHC team members.

According to Home Health Care websites, the home health care team consists of physicians, nurses, home health aides, medical social workers and therapists who coordinate care based on an individual's needs.^{3,4,5,6,7}

The physician's role in the HHC team cannot be undermined.⁸ Home visits very important to HHC for many reasons. They can help the physician gather information that may not have been uncovered in the office visit as evidence of neglect, incontinence, or use of multiple medications, understand better the environmental and family factors that might influence a person's health, and assess better pertinent activities of daily living and clarification of a situation that may have been perplexing in the office setting. Home visits serve as opportunities to monitor home care service. Physicians can act as administrators and active participants. By knowing the patient's baseline data, the physician can direct other health care professionals who are members of the HHC team. By understanding the role of each team member, the primary care physician will be able to provide more cost effective care. Another purpose of home visits is providing emotional support to the patient and the family. When a patient is seen by a physician in the home, fears of being abandoned will be relieved.⁹

There are two models for physician participation in the HHC team. The common model shows the physician relying on the home health care nurse to be liaison, team leader, and coordinator in addition to performing the regular nursing activities.² The second model is active physician participation in HHC. A mnemonic INHOME⁹ (which stands for Immobility, Nutrition, Home Environment, Other home health care team members)

was devised to help family physicians to remember their role. It expanded to INHOMESSS⁴ (which stands for Immobility, Nutrition, Home Environment, Other home health care team members, Medications Examination, Safety, Spiritual Health, and Services by home health agencies).

Corrective interventions can be made by physicians when proper assessment can be done of patient's mobility (daily activities of bathing, dressing, feeding, toileting, continence, shopping for food, paying bills, preparing meals, doing homework, etc.) and these can be properly evaluated more properly in the home. Corrected interventions can be made at any deficiencies noted.^{9,10} Physicians can better evaluate the patient's current nutritional status and state of hydration as well as his capabilities for maintenance of proper nutrition.^{9,10}

The patient's home environment should allow for privacy, social interaction and both spiritual and emotional comfort and safety. It can also reflect the patient's interests and hobbies. The physician can assess the patient's safety and sense of security in his home, and thus can recommend activities, which the patient can do at home.¹⁰

Family physicians should evaluate and assess the other home health care team members' tasks. As the patient's social support system cannot be fully appreciated during office visit, the accessibility and helpfulness of family members and neighbors, especially in an emergency situation, need to be evaluated. Evaluation of the caregiver's needs and risk of burnout is critically important.¹⁰ In the home, cues for caregiver stress or burnout are more evident and can be assessed easier, thus recommendations for respite care can be made more easily.^{9,11}

The physician can assess the patient's medicine cabinet to be certain of the full extent of the prescription and nonprescription drug use by an individual patient,⁹ and also allow a direct estimate of patient compliance, uncover evidence of "doctor shopping," and identify the use or abuse of over-the-counter medications and herbal remedies.¹⁰

The physician should be able to assess the patient's and caregivers' ability to manage the equipment at home such as ventilators, peak flow meter, self monitoring glucose levels, and others so as to teach them the proper use of each.^{9,10}

Home safety assessment is done to assess the patient's environment as to his comfort and safety so that unreasonable injury is avoided. The physician should simply state the intention to identify and help modify condition to ensure safety.¹⁰ Home safety elements are:

furniture such as tables and chairs, stairs, bathroom, loose carpets and throw rugs, lighting and night lights, emergency actions and safety route, fire and smoke detectors, and fire extinguishers, water source, hot water heater, heating and air conditioning, gas and electric utilities.

The physician should well know that religion and tradition plays a strong role in Saudi Arabian society. The patient's ability to fast and to pray may be affected by his illness, and the physician should be able to assess this. He should be able to convince the patient on the medical aspect of health.

The nurse's role in the team is very important in the HHC since most HHC service is provided by nurses.¹⁰ The nurse collaborates with the physician to provide the patient with home care that he needs. Home care nurses also work with various personnel from ancillary disciplines to coordinate services designed to optimize a client's quality of life. A nurse determines the type and frequency of nursing interventions to be implemented and evaluates the patient for any needed ancillary services when performing a client's initial assessment.¹⁰ The home care nurses primarily implement the medical and nursing care plans and identify needs for ancillary services and make recommendations to physicians.¹² Physicians revise treatment plans based on the nurse's report of changes in the patient since they see the patient more frequently than the doctor. Developing comprehensive problem lists and assessment of care and goal plans are HHC nurses' responsibilities, too.^{10, 11} All the HHC team personnel perform initial assessments, and subsequent assessment hereto after which all their services are based from; these they coordinate with the nurse. Case conferences are held wherein multidisciplinary team meets collectively to brainstorm strategies that will most effectively help patients to achieve their goals which the team members' goals are compatible with. The nurse coordinator establishes a schedule of visits with several people performing different interventions in rapid succession to not overwhelm patients. Lack of communication can cause unnecessary conflicts in treatment plans that send mixed messages to patients and lay caregivers, thus resulting in lay caregivers to lose trust in the home care team. The nurse coordinator sees to it that regular communication is important to ensure that interventions are complementary.^{10, 11}

In addition, the nurse should provide the documentation, keeping all patient data (patient clinical assessment, diagnosis, HHC treatment plan, objectives, and goals) recorded.^{10, 12} Nurses must also stay in contact with different community services and organizations which will meet the comprehensive long-term needs of patients as: equipment, medical supplies, food, socialization,

laboratory testing, and personal care. These organizations can facilitate and enhance the ability of patients to maintain independence in their own homes.^{10, 13}

The Pharmacist's role in the HHC team is guided by the American Society for Hospital Pharmacists' guidelines. He is responsible for willingness and ability of the patient or caregiver to be trained to properly administer medication; and appropriate indication, dose, route and method of administration of medication; and appropriate laboratory test for monitoring patient to medication orders. The appropriateness of whether the first dose of medication is to be given in the home should be guided by clinical judgment. The pharmacist should ensure that the patient or caregiver receives the appropriate education, training, and counseling regarding the patient's drug therapy. Pharmacist should be readily accessible in the event that problems or questions arise. The pharmacist should use clinical judgment for many procedures and equipment use and maintenance, home inventory maintenance, and procedures for securing additional supplies and medication when needed, potential adverse effects, drug interactions, drug nutrient interaction, and their management; special precautions for the preparation, storage handling, disposal of the drug, supplies and biomedical waste, and emergency procedures.¹³ The pharmacist with the patients or caregiver and other health care professionals is responsible for developing an appropriate pharmaceutical plan for each patient.

The physical therapist's role in the team is helping evaluate a patient's need for assistive devices (such as canes, walkers, crutches) and educate patients about their safe and appropriate use. He also assists patients to improve mobility and to reduce the risk of injuries resulting from accidents. He is most useful in putting up a plan for patients with mobility problems, difficulties with ambulation, transfers, or bed mobility and chronic pain, balance or coordination problems, or decreased range of motion and strength. He establishes the home exercise program to enhance or maintain a client's range of motion, muscle strength, and endurance.^{9, 10}

The occupational therapist's role in the HHC team is managing patients with diseases or disabilities affecting their functional status. Occupational therapists provide services to increase a patient's ability to perform activities of daily living such as: bathing, dressing, toileting, cooking, eating, and homemaking. They instruct clients on techniques, equipment, and aids that can help them to overcome their disabilities.¹¹ They also assist patients incapacitated by illness or injury with adapting their homes to improve functionality, as well as educate patients with reduced respiratory capacity (such as COPD, CHF) or with chronically compromised strength

and endurance (such as muscular dystrophies) in energy conservation techniques.¹⁰ They may recommend ways to adapt clothing that enable patients to dress themselves, use specially designed utensils or devices that will help patients maximize their autonomy, which can profoundly affect self-esteem and the ability to leave alone.^{10, 11} Occupational therapists develop exercise programs for home care patients who have decreased functions in upper extremity or hand because of impairment such as nerve or brain injury, or CVA. They can apply splints, which are used to rest inflamed joints in optimal positions to prevent or to correct deformities. Occupational therapist also deals with applications for home adaptations, including stair lights or rails, grab rails, bathroom adaptation, widening door for wheel chairs, and positions of switches and extra heating appliances.¹⁰

The primary objective of a caregiver for an aging or disabled individual is to provide a safe environment combined with the highest level of achievable independence. Fortunately, the home health care industry and medical products manufacturers have produced innovative products and equipment designed to help patients maintain independence, dignity and safety. Medical Supplies & Equipment is a reliable, established home health care supplier offering a wide range of physician-prescribed home health care.¹⁴

The speech therapist's role in HHC team is to help patients develop their remaining communication skills and to learn compensatory communication mechanisms through visual cues and cognitive retraining. He sets up a variety of communication aids and technology, assists patients with learning sign language, obtaining hearing aids or mastering the use of an electrolarynx, and teaches them to use a simple communication board that includes common messages they wish to communicate, which enable patients to point messages on the board indicating whether they are hungry, thirsty, hot, or cold. Recent advances in computer technology provide telecommunication systems for hearing loss patients, which transcribe spoken words into written messages on a screen.¹⁰

The role of social workers in the HHC team is to provide invaluable assistance to the home care team by providing emotional and psychological supports. Sometimes HHC becomes stressful due to conflicts between the caregivers and patients, limited community resources, restrictions on the type and amount of care provided, and the challenges to patient autonomy that arise as a result of chronic and acute illnesses.

When patients inexplicably fail to comply with instructions outlined in their treatment plans and the refusal of care to participate in the care of a patient for

reasons that are not apparent to the clinicians involved, social aspect of HHC management may appear. The social worker is the key figure in access to community care services for care of elderly patients or old age psychiatry.¹⁵ When an extra support at home is needed, social worker will start a formal assessment procedure, which varies from an initial assessment of mobility, personal care abilities, and current environment process involving input from other members of HHC team and including assessment of finances.¹⁶ He links the patients also to formal and informal sources of support, and providing emotional support to help them resolve feeling related to loss, the burden of caregiver, and the need to readjust relationships in the face of illness and disability.¹⁶ The social worker's community-based activities of care are coordination, health education, counseling, assessment, and skill in facilitating decision making related to ethical issues. To insure that standard are maintained the social worker will do regular inspection and monitoring unit visit¹⁶. The social services departments provide 24 hour emergency call system for people who are: elderly or disabled; living alone or unable to use an ordinary or adopted telephone, which consists of press button and loud speaker installed in the phone or a portable pendant that is worn around the neck or as a bracelet or brooch.¹⁶

The role of home health aid in the HHC team performs services involving the personal care of the patient. The home health care assistant works under the direct supervision of the home care nurse to follow a course care outlined in the written care plan.¹⁰ He may help the patient in bathing, transferring in and out of bed, grooming, dental care, exercise, and taking of medications. He may also help with light housekeeping chores, such as changing bed linens.¹⁰ A trained paid housekeeper can take this role of the home health aid.

Family members can provide personal care, wound care and administration of intravenous medications.¹⁷ Although HHC has the ability to lower the more obvious health care costs associated with hospitalization or long-term institutional care, home health care may also increase the personal cost to family member's emotional, social, physical, and financial well-being.^{17, 18} If the patient's informal support network becomes unable to handle the increased burden resulting from disease progression, treatment intensity or depletion in available resources, home health care may collapse. A home health care team should consider the increased family caregiver burden and try to decrease it by looking for other alternative such as respite care. The aim of respite care is to ease the pressure of the caregiver by substituting an alternative method of care for a period of time, which may be a few hours, days or weeks.¹⁶

In cancer care, home health care team members are composed of the following:^{19,20} oncologist, rehabilitation specialist, nurse, psychologist, psychiatrist, social worker, dietary or nutritional service, and home health aides. The services of a rehabilitation specialist help people recover from physical changes caused by cancer or cancer treatment. It includes the services of physical therapists, occupational therapists, counselors, speech therapists, and other professionals who help you physically recover from cancer.

In Saudi Arabia, the results of the Al Hazmi study²¹ showed that health care professionals had positive attitudes toward HHC services. Virtually all health care professionals agreed that there is a need for home health care services in Saudi Arabia because of their importance to patients. This was supported by almost all their answers to the important questions related to providing HHC to their patient. This reflects from their experiences from their professional day-to-day practice, the actual patients' needs of home health care. It was also found out that no structured HHC services were available in government hospitals and PHHCs in Al-Khobar and Al-Dammam.

Conclusion

The quality of life of the terminally ill patients relies heavily on the psychosocial skills of health care professionals. The health care team consists of a physician, nurse, respiratory pharmacists, therapists, social worker, home health aide and volunteers. The team develops an individual care plan, which will provide an appropriate support system for the patient and their family up to and beyond patient's death. Weekly meetings allow the team to focus on the changing needs of the patient and make adjustments to their plan.¹³

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Malnutrition in an Ageing Population

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Introduction

Malnutrition may be defined as a state of nutrition in which a deficiency, excess or imbalance of energy, protein and other nutrients causes adverse effects on body form, function and clinical outcome ⁽¹⁾.

The term undernutrition is often used interchangeably with malnutrition. Undernutrition rather than overnutrition has been agreed to be the main cause for concern in the older population (principally due to increased morbidity and mortality with undernutrition compared to obesity) ⁽²⁾.

There is no gold standard for determining nutritional status and there are no universally accepted criteria to define malnutrition ⁽³⁾⁽⁴⁾⁽⁵⁾⁽⁶⁾.

The elderly are a particularly nutritionally vulnerable group. In the UK 12.4% of those aged 65 or over living in the community at high or medium risk of malnutrition, rising to 20.4% in people in residential accommodation and up to 40% of patients admitted to hospital of this age ⁽⁷⁾.

Malnutrition and the elderly population

The prevalence of malnutrition increases with escalating frailty and physical dependence ⁽¹⁾ and malnutrition has been repeatedly highlighted as an unrecognised problem with negative consequences for physical and psychosocial outcomes ⁽⁷⁾⁽⁸⁾⁽⁹⁾.

Malnourished older people have been shown to be at increased risk of falls, prolonged hospitalisation, institutionalisation, postoperative complications, infections, pressure ulcers, poor wound healing and mortality ⁽¹⁾⁽²⁶⁾ and some malnutrition screening tools include age as a specific risk factor (such as the Nutritional Risk Screening 2002 system) ⁽¹⁰⁾.

Nutrition and ageing

Ageing is a complex biological process, which is accompanied by many socio-economic factors that also impact on the nutritional status of the older individual ⁽¹¹⁾. There are a number of age-related physiological and pathological changes relevant to nutrition.

Anorexia and weight loss are common in the elderly and the anorexia of ageing describes the physiological decrease in appetite and food intake that accompanies normal ageing. ⁽¹²⁾ These processes can be augmented by acute and chronic disease.

There are also a number of gastrointestinal changes which may contribute (such as altered smell/taste, poor dental health and age-related achlorhydria) and ageing is associated with a decrease in physical activity and lean body mass and an increase in body fat ⁽⁵⁾⁽¹²⁾⁽¹³⁾.

Key non-physiological factors are also important: social factors (such as poverty, social isolation), psychological factors (such as depression and dementia) and medical factors (such as decreased visual acuity and prescribed medication) ⁽¹⁾⁽⁵⁾⁽¹²⁾⁽¹⁴⁾.

Micronutrient deficiencies are more likely in the older population ⁽¹⁰⁾⁽¹⁵⁾, particularly calcium and vitamin D (related to age-related renal impairment decreasing the hydroxylation of vitamin D, inadequate vitamin D intake, and sunlight deprivation) with the associated morbidity and mortality related to low trauma fractures secondary to osteoporosis ⁽¹³⁾.

It is important to note that most factors which may predispose to malnutrition in the elderly person (i.e. social, psychological, physical and medical factors) are reversible or responsive to treatment ⁽¹²⁾.

Individual methods of malnutrition screening

Nutritional screening (as opposed to nutritional assessment) is defined as the process of identifying characteristics known to be associated with nutritional problems with the purpose of identifying malnourished individuals or those at risk of becoming malnourished so that a nutrition assessment and intervention can be implemented ⁽¹⁶⁾.

The screening process should be simple, rapid and easy to use, acceptable to patients and healthcare workers, reliable valid and have a high positive predictive value i.e. that there is a likely health benefit for the individual from the intervention resulting from the screening process ⁽¹⁰⁾⁽¹⁷⁾.

Ideally, a single nutritional marker would fulfil the following criteria:

- consistently abnormal in patients with protein-energy malnutrition (high sensitivity)
- consistently normal in patients without protein-energy malnutrition (high specificity)
- nutrition-specific (unaffected by non-nutritional factors)
- normalised by nutritional support (high sensitivity to nutritional depletion) ⁽¹⁸⁾

The initial nutritional screening processes may involve assessment of body mass index, anthropometric measures and measurement of biochemical markers, the role of each of these is discussed below.

(a) Anthropometry

Anthropometric indices include body mass index, skin fold thickness at defined sites, limb muscle circumferences and waist:hip ratio.

Body mass index [$BMI = \text{weight (kg)} / \text{height (m}^2\text{)}$] has been used as a method of defining undernutrition and has been extrapolated as a single assessment of nutritional status ⁽¹⁹⁾. However, body mass index may be unreliable in the presence of confounding factors such as oedema or ascites ⁽²⁰⁾ and may fail to identify unintentional weight loss ⁽¹⁹⁾⁽²⁰⁾.

Furthermore, measuring height reliably in the elderly is often problematic due to an age-related decline in sitting and standing height due to vertebral compression, change in height and shape of vertebral discs, loss of muscle tone and postural changes ⁽¹⁵⁾.

There is some difficulty in the extrapolation of BMI cut-off values from public health initiatives (primarily intended for people without overt disease) to clinical practice (and often people with overt disease) and a wide range of BMI cut-off points (<17 to <24 kg/m²) have

been used to indicate malnutrition in elderly subjects ⁽²⁾⁽¹⁹⁾. A reasonable cut-off value is 20, given that a normal body function has been demonstrated in elderly subjects with a BMI over 20 and the benefits of nutritional support has been shown particularly in elderly people with BMI <20 in randomised controlled trials ⁽²⁾.

Skin fold thickness can be measured with standardized callipers and to be done accurately requires a skilled technique. Up to 60% of total body fat is located subcutaneously and skinfold thickness can be measured at various sites: subscapular, supriliac, biceps, triceps, thigh and calf. Some variation in the distribution of skinfold thickness has been observed with ageing and between sexes and different ethnic groups ⁽¹⁸⁾.

Measuring arm circumference can be used on the assumption that the mass of the muscle group measured is proportional to its protein content and also a reflection of total body muscle mass ⁽¹⁸⁾. Mid-upper arm circumference (MUAC) is a useful indicator of malnutrition and can be used in ill patients (normal MUAC >2cm males, >22cm females) ⁽²¹⁾.

Anthropometric parameters are simple, non-invasive and inexpensive measures of assessing nutritional status ⁽²²⁾. However, the usefulness of anthropometry as an indicator of nutritional status is limited by its dependence on the availability of comparative age, gender and ethnic related data ⁽¹⁵⁾. Furthermore anthropometric indices are not clearly reliable as indicators of nutritional status in any condition causing limb oedema and there are problems of measurement error between individual assessors.

(b) Biochemical markers

Certain serum proteins, synthesized by the liver, have been used as markers of nutrition, namely: albumin, transferrin, retinol binding protein and thyroxine binding prealbumin. Although these proteins are decreased by protein-energy malnutrition related effects (decrease in liver mass and diminished hepatic protein synthesis) there are also a number of other factors, which contribute, for example, infection ⁽⁶⁾⁽⁹⁾.

Serum albumin has often been used as a marker of nutritional status and is predictive of mortality and other outcomes (for example, peri-operative complications) in older people. However, acute illness or inflammation causes a rapid decrease in albumin levels by the production of cytokines, which inhibit albumin synthesis and facilitate migration from intravascular or extravascular space ⁽²³⁾ and other catabolic conditions and liver and renal disease may also reduce albumin levels ⁽¹³⁾.

In addition, the relatively long half-life of albumin means that serum albumin does not respond to short-term

changes in protein and energy intake ⁽⁹⁾.

Transferrin is a more sensitive indicator of early protein-energy malnutrition than albumin but is unreliable in a number of conditions including pregnancy, iron deficiency, hypoxaemia, chronic infection and hepatic disease ⁽⁹⁾.

Whilst Retinol binding protein (RBP) and thyroxine binding prealbumin (TBPA) possess the greatest sensitivity to protein-energy malnutrition and have been found to change more rapidly in response to dietary restriction and refeeding, they also are unreliable markers in the presence of a number of conditions such as hyperthyroidism, acute inflammation, and trauma. ⁽⁹⁾

A low total lymphocyte count is independently a poor prognostic indicator and is often associated with a low serum albumin ⁽¹³⁾. It is known that malnutrition contributes to age-related immune dysregulation including decreased lymphocyte proliferation ⁽¹²⁾.

A low total cholesterol has also been correlated with risk of malnutrition ⁽⁴⁾ and assessment of vitamin and trace element status is also important as mentioned previously (including b1 thiamine, b2 riboflavin, b6 pyridoxine, calcium, vitamin D, B12, folate and ferritin).

None of these biochemical markers are entirely satisfactory as indices of nutritional status but some may be useful in monitoring certain non-catabolic patients.

In addition, although the individual assessment methods described (i.e. biochemical markers, anthropometry and body mass index) correlate with significant morbidity outcomes (such as risk of infection and postoperative complications) and mortality ⁽⁶⁾⁽⁹⁾, no single assessment method meets all the criteria set out above and a move toward the use of screening tools has developed. Two such tools are described below.

(c) Malnutrition Screening Tools

There are over 50 published nutrition screening tools with differing criteria and scoring systems ⁽²⁾. A number of these tools are not supported by sufficient reliability and predictive validity data or a defined area of use (hospital or community).

The Malnutrition Universal Screening Tool (MUST) derives a score classifying malnutrition risk (as low, medium or high) on the basis of three components:

- (a) BMI,
- (b) history of unexplained weight loss
- (c) acute illness effect ⁽²⁾

MUST was primarily developed for use in the community but has also been demonstrated to have a high degree of reliability, practicability and predictive validity (of length of hospital stay, mortality in elderly wards and discharge destination in orthopaedic patients) in the hospital environment ⁽²⁾⁽¹⁰⁾ and rates of hospital admissions and GP visits in the community ⁽²⁾.

The Mini Nutritional Assessment (MNA) was developed to evaluate the risk of malnutrition in the elderly in home-care programmes, nursing homes and hospitals ⁽¹⁰⁾. It has been suggested that the MNA is more likely to identify frail elderly patients at risk of undernutrition as it encompasses physical and mental aspects of health ⁽¹⁰⁾⁽¹⁶⁾⁽²³⁾. The screening component comprises a score derived from six components:

- (a) reduced food intake in the preceding three months
- (b) weight loss during the preceding 3 months
- (c) mobility
- (d) psychological stress or acute disease in the preceding 3 months
- (e) neuropsychological problems
- (f) body mass index ⁽¹⁶⁾

The MNA has predictive validity for adverse health outcome, social functioning, mortality and rate of visits to the general practitioner as well as length of hospital stay, likelihood of discharge to a nursing home and mortality ⁽¹⁰⁾⁽¹⁶⁾. A score of 11 or more on the screening component of the MNA predicts absence of malnutrition with 100% sensitivity and 100% negative predictive value ⁽²⁴⁾. The MNA has also been demonstrated to be practical and reliable ⁽¹⁰⁾⁽²⁵⁾⁽²⁶⁾.

Conclusion

A number of physical, mental, social and environmental changes which take place with ageing, may affect the nutritional status of elderly people. Given the expanding elderly population, the prevalence of malnutrition risk in this population and the potential of appropriate screening processes to remove this risk, nutritional screening should be given a high priority.

A number of screening methods exist, use of individual markers for malnutrition screening has significant limitations and screening tools are better suited to facilitate this process.

Nutritional "screening tools", using combinations of markers of malnutrition have been demonstrated to be simple, rapid, acceptable, reliable and valid methods of nutritional screening.

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Models and Systems of Elderly Care

Quality of Life

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More and more quality of life is judged in terms of wealth rather than in terms of such immeasurable faculties such as happiness, creativity, well being, generosity of spirit and a sense of compassion and connectedness. Even the education system is focused on the needs of big business and children are narrowly focused on aims which do not enhance their health or create a wider knowledge of their understanding of their place in society or the nature of life itself. The basic needs of freedom of poverty expressed by such people as Galtung, Rawls, Max-Neef and Lasswell and Maslow are not addressed for people even in higher socio-economic groups in the developed world. Such needs would address the needs specifically for affection, understanding, participation, leisure, creation, identity and freedom. The society is so stressed that by 2010, one in three people will be suffering from depression which psychiatrists consider needs medical treatment by drugs. So we come to the brave new world of Aldous Huxley where the workers are placed on soma to blunt their conception of what freedom or real quality of life is.

Poverty and Culture

According to the UN Development Report, Australia is second only to Norway as the most desirable country in the world in which to live. This report of the UN Development program measures 162 countries according to a range of factors such as life expectancy, education levels, healthcare and income.

However, in this picture there is obviously no room for complacency. According to research by the National Centre for Social and Economic Modelling, University of Canberra for the Smith Family welfare organisation in 1999, 1 in 7 Australians were living in poverty.

Those most likely to live in poverty were those on welfare, those with three or more children, sole parents or the unemployed. The researchers warned that the risk of poverty is greater for children than adults. NATSEM estimated that 752,000 dependant Australians or 14.9% lived in poverty in May 1999. Also, 12.9% of Australian adults lived in poverty in May 1999.

Some of the things that cannot be measured by statistics is the concept of culture. Culture is also dependent on quality of life and quality of life is also dependent on health as well as education.

The Key To Culture

Often, the key to culture is found, not so much primarily in the early experience of the child. It is dependent on pre-natal items as to the kind of nutrition the mother has, the kind of experience she has experienced during her pregnancy, the kind of relationships she has, whether it is integral and stable or unharmonious. After birth, the forms of child rearing, social stimulation, love and care are very much significant as to the future child's happiness.

Our children are currently being born into a world which is threatened by many, many factors, including those with adverse effects. The factors the global community has to deal with in the next hundred years are famine, global spread of disease, civil war, international wars, competition for scarce resources, civil disorder amongst the haves and have nots, housing shortages, and the highly materialistic ethos of the possibility of human extinction.

Human beings have already changed the environment of the planet radically and have caused many other bio-extinctions of other species. If current trends continue the picture will get worse. The projected extra six billion people in the next hundred years, predicted for 2020 would need more room to live and grow food. If there are more of us, there is less room for plants and animals. There is less room for the tropical rainforests and the planetary biodiversity of species.

Human beings are causing extinctions at 100-10,000 times the natural rate. This is the greatest way of extinction since the end of the cretaceous period 65 million years ago when the dinosaurs were annihilated.

Yet, politicians generally do not think in terms of large periods of time or even the next generation. Perhaps the maximum term they can think of is three years which maybe the tenure of their political term or contract.

The Economics of Happiness

This split between the more rational, the logical and the creative approaches to economics is expressed also in the way quality of life has been measured up until now. In his 1974 paper, the Economic Historian, Richard Easterlin formulated what was later known as the Easterlin Paradox. Basically above a very low level, economic growth does not seem to improve human welfare. Later evidence confirms his observation, Americans were no more likely to describe themselves as happy in the 1990's than they had been in the 1940's.

Economist, Andrew Oswald at Warwick University, England in his paper, 'Happiness and Economic Performance', April 1997, stated that industrialised well-being appears to rise as national income grows but the rise is so small it is sometime undetectable and employment however, seems to be a large source of unhappiness.

This suggests that governments ought to be trying to reduce the amount of joblessness in the economy. In a country that is already rich, policy aimed instead at raising economic growth may be of comparatively little value.

In his most recent paper, Oswald was studying whether money makes people happy. It showed that people who won lottery money or received an inheritance had a higher mental well being in the following year. A windfall of 50,000 pounds, was associated with a rise in well-being of 0.1 and 0.3 standard deviations. He ended by saying whether these happiness gains wear off over time remains a good question.

It is interesting to see that the kind of parameters he was using was dependent on the British Household Panel Survey which consists of questions which could just as easily be asked by a GP on his patients if the GP wanted to find out whether they were depressed or not.

They were also based on stress reactions and did not seem to be measuring basic personality types, cultural acquisition, creativity, levels of actualisation, educational attainment and other things.

Quality of Life and Culture

One thing we can say is that culture alters quality of life and that that individual quality of life is enhanced by a person's ability to be educated and be brought up in a warm, caring environment.

Within this context of mind and matter there are several papers which are of interest. First it has been shown that

the intellectual or emotional development of children from the age five to the completion of high school is adversely affected by lack of social capital. The social capital refers to unfavourable environments which basically do not give care or support. The effect was specifically noted in socio-economic deprived families, Quote Pediatrics Volume 101 1998, Children who Prosper in Unfavourable Environments, the Relationship to Social Capital.

Another study has found that dementia occurs at a much higher rate amongst people with learning disabilities than it does amongst the general population. This is independent of the association between dementia and Downs Syndrome.

A further study examined the perception of parental caring obtained by undergraduates relating to subsequent health over an ensuing thirty-five years.

This was done on Harvard undergraduate men who participated in the Harvard mastery stress study and the results show that subjects identified in mid life as suffering from the common degenerative diseases of Western society gave their parents significantly lower ratings as perceived in terms of "parental care, loving and just and share, hardworking, and clever," whilst in college.

It is obvious that intellectual stimulation and loving, caring support from family, friends, and the community at large is extremely important for the general well-being of the individual as well as for the prevention of intellectual deficit later in life.

Globalisation

Globalisation on the free trade model of the neo-liberal Washington consensus economics is colliding with local cultures natural economic sovereignty, social customs and values, as well as traditional agriculture, indigenous rights and the protection of biodiversity and the environment. The fundamental issue is the very economic model underlying today's Globalisation of technology, trades and markets. The critics from many diverse perspectives agree that free trade doesn't account for social and environmental costs and cultural disruption in the price in traded goods and services will continue to cause more harm than good.

The World Bank, the IMF, the US Government and the WTO still refuse to recalculate prices and microeconomic indicators including the GDP to include these social and environmental costs, which contribute towards the deterioration of human life. Civil society movement groups throughout the world are committed to the idea of preserving human identity and enriching biological and

cultural diversity.

Power of the Human Mind

Complex technologies have tremendous potential for harm. The most under used resource on the planet is the human mind. Although we may have finite resources, we have one infinite resource which is the human mind and this faculty is the least understood aspect of humanity on the planet, and should encompass the term bio-mind which means the complete or self actualised human being.

Healing the Stressed Society

This has particular significance in terms of the pre-eminence healing as an impact on creating a more successful, dynamic and sustainable society, particularly in the Australian nation. If people can understand the intimate connection between the mind and body they could then realise how the power in each of us has the ability to affect not only how we feel, but indeed how to affect the course and outcome of illnesses.

Only recently in all medical schools in the Western world, the connection between mind and body, that was the cornerstone of Hippocratic medicine, was ignored. It was in the 1930's that Cannon discovered the bodily fight and flight syndrome, a reaction to any perceived threat by a living organism. Subsequently Canadian, Hans Selye defined stress as the non-specific response of the body to any demand. In the 1970's researchers began to understand the flight and fight and stress responses were related to a variety of human disease states and more recently with the work of George Solomon, Stanford University, Robert Aider, University of Rochester and Candice Pert at John Hopkins, a new field has been mapped called psychoneuroimmunology emphasizing the interconnection between the mind, brain and the immune system.

George Engel a Professor of Medicine at the University of Rochester, has studied hundreds of patients with chronic disease over a period of twenty years. He found that 70-80% of these people who had suffered from heart attacks, cancer, stomach ulcers, ulcerative colitis, multiple sclerosis, and other conditions had all experienced extended periods of helplessness and times when they felt like giving up.

The vulnerability of the human being is found even at the earliest age. Tiffany Field, and her colleagues at the University of Milan Research Institute showed that premature infants who were massaged several times a day for ten minutes demonstrated a 47% weight gain and were able

to leave the hospital six days earlier than other premature babies who received only the customary hospital care. This saved the hospital costs of \$10,000 per baby per day.

The Control and Moderation of Stress

In quality of life assessment therefore we have to understand that control and moderation of stress is a prerequisite for people who wish to live long fulfilling lives.

On top of this, what quality of life surveys have not addressed is happiness and health. Happiness is not even touched in quality of life assessments. A reference can be made to the poverty outline discussed in the World Banks dissertation and research on poverty. It is interesting to see that in the context of physiological change, humanity has barely moved out of bodily integrity.

Self Actualisation

The primitive physiological drives for survival for flight and fight and hunger are the basic modus vivendi for most of humanity. What we need to emphasise and encourage in the creation of culture are the dynamic needs that Maslow so aptly describes in his dynamic hierarchy, which are safety needs, belongingness and love, esteem and self actualisation. Our current culture is a rapacious assault on peoples senses of a belief system of success at all costs, competition, exploitation of people and environment.

Healing above all else in terms of mind/body medicine is the key to creating a culture that is more sustainable and vital. A nation that is actively involved in its own healing and thereby creating a unique culture is more able to satisfy and enhance its creative needs.

Such a nation would be able to set an example to the rest of the world in terms of its creative performance and economic success. The ingredient is the development of a culture which is based on physiological happiness which then becomes the determinant for actual self actualisation both in terms of the individual and also in terms of society. This reduction of stress will also save billions of dollars in terms of the prevention of cardiovascular disease, cancer and other degenerative diseases of western society.

The Healed and Creative Nation

From this point of view, the healer comes into focus as being a significant player in the building of a knowledge and creative nation. In this aspect everyone who comes to see a physician could be helped to understand, the

emotional, environmental, work and social stresses that contribute to their illness. They could be advised about proper nutrition, exercise and taught relaxation techniques, self hypnosis and other appropriate strategies for self awareness, self regulation and self actualisation.

Kofi Annan has recently talked about the ecological print of unsustainability that humankind currently has on this planet. The population is currently at 6,169,232,000, and increases at about 438 every ten minutes. "Humanity must solve a complex equation". Annan said. "We must stabilise our numbers, but equally importantly we must stabilise over use of resources and ensure sustainable development for all."

There are certain fundamental factors that need to be understood in healing. These are:

1. The control of stress
2. Nutrition
3. Mastery of life, and control of destiny
4. Support of the community

These four factors are essential for the health and well being of the individual in society.

Mastery of life also includes: challenge, participation, commitment and control. It has been found particularly that when people are challenged, whether they are small children or adults, they rise to the occasion much more effectively if they are not spoon fed.

A sense of involvement and participation in the community is another form of healing as it empowers the individual. This is one of the ideologies underlying the creation of development and parental centres for children, in which children and parents work together in a process, which enables them to create unified families and a productive and positive future.

The dominance of the market system has meant that the GNP does not include environmental costs and benefits, or social indicators. A new economics of sustainability should include such social indicators as literacy, education, women's rights, crime, suicide health and illness. The GNP does not reflect the way people feel about themselves, or society. In this respect, we need a new index, which encompasses quality of life and wellbeing for a nation in rapid transition and renaissance.

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Social Welfare and Health (Mental, Social, Physical) Status of Aged People in Iran

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ABSTRACT

One of the biggest areas of demographic change, commencing in the 20th century, is aging. Average life expectancy at birth has increased by 20 years since 1950, to 66 years and is expected to extend a further 10 years by mid-century. This demographic triumph means that the number of older people will increase from about 600 million in 2000 to almost 2,000 million in 2050. The increase will be greatest in developing countries where the older population is expected to quadruple during the next fifty years (Second World Assembly on Ageing, 2001). According to the latest census taken in Iran, the elderly population aged 60 and older was 6.6% of the whole population (71 million), which will be more than four million. It would be interesting to find out the present situation (Social welfare and health) in such a developing country like Iran.

In this study, after a quick epidemiological aging review in the world, Asia, and Middle East, we will review the Iran census for aged people, in detail. We will discuss the social welfare, and health status of aged people in Iran. In social welfare status, we will focus on issues like social security, welfare, shelter, education, family patterns, and income. In health status, we will focus on different categories: mental health, physical health, and social health. Since old age is associated with more dependency and is concomitant with other related diseases, in order to confront these problems different kinds of health, medical, and economical facilities should be considered.

Because of different consequences (medico-social, psychological, political and economical) of aging in societies, referring to such reports will help the policy makers and care givers develop future planning for aged people. It is necessary for Iran to perform an epidemiological survey to determine aged peoples' needs (social, mental, and physical health) in order to design national framework services.

Introduction

Average life expectancy at birth has increased by 20 years since 1950 to 66 years and is expected to extend a further 10 years by mid-century. This demographic triumph means that the number of older people will increase from about 600 million in 2000 to almost 2,000 million in 2050. Global society is already older than ever before in human history. The increase will be greatest in developing countries where the older population is expected to quadruple during the next fifty years. Such a global demographic transformation has profound consequences for every aspect of individual, community, national and international life. Every facet of humanity will evolve - social, economic, political, cultural, psychological and

spiritual (Second World Assembly on Ageing, 2001).

According to the latest census taken in 1996 in Iran, the elderly population aged 60 and older was 6.6% of the whole population and the Census Bureau predicts that the elderly age dominance will be more significant from the year 2030 on. In this regard the elderly population aged over 60 will be 8.5 million in 2020 and five years later in 2025 this will reach up to 10.5 million. This means the population of aged below 5 years will be the same as older than 60. At that time we will have an explosion in the population of the elderly in the country. Since old age is associated with more dependency and is concomitant with other related diseases, in order to confront these problems different kinds of health, medical, and economi-

cal facilities should be considered. Aging could not be stopped but the disturbances and disabilities of old age could be prevented or postponed by implementing appropriate care and methods. In order to obtain a detailed and organized program like other countries in the world and many of the East-Mediterranean countries (EMRO) have proposed their seniors' health national program, it was necessary for Iran to perform an epidemiological survey to determine seniors' social and physical health, setting priorities for social and physical health needs, assess the amount of services needed for them and to adopt national policies on caring for this age group.

Aging and life expectancy

By looking at the present and future distribution numbers of aged people (60+) in the world, developed countries, developing countries, Asia, and Iran, we can recognize the increasing numbers in different regions (**Table 1**).

Health promotion encourages people to control and improve their own health. Goals of increasing the healthy life span, improving the quality of life for all, reducing mortality and morbidity rates, and increasing life expectancy are emphasised in all regions of the world. In (**Table 2**), the average life expectancy at birth has been shown for the world, developed countries, developing countries, Asia, and Iran. The increasing rates are very important and can be defined as improvement in the human condition.

The remarkable demographic transition underway will result in the old and the young representing an equal share of the world's population by mid-century. Globally, the proportion of persons aged 60 years and older is expected to double between 2000 and 2050 from 10 to 21 per cent, whereas the proportion of children is projected to drop by a third, from 30 to 21 percent. In certain developed countries and countries with economies in transition, the number of older persons already exceeds the number of children, and birth rates have fallen below replacement levels. In some developed countries, the number of older persons will be more than twice that of children by 2050. **Figures (1), (2), and (3)** show the demographic transition of the Iran population from 2000 to 2050 for male and female in different age categories.

As it can be seen the pattern is changing completely in the future. It shows the importance of the aging

issue in Iran in the future.

Health Promotion and Well-Being

There has been a different definition for health: Physical, psychological, social and Spiritual well-being is not only absence of disease or disability (Alma-Ata, 2001). Health can be soundness of body and mind, a state of vigor and vitality that permits one to function effectively physically, psychologically and socially. The dimension of health is: Physical, Psychological, Social, Spiritual and Environmental.

Physical health refers to soundness of body. It involves such aspects of physical being as weight, body shape, the sharpness of senses, the ways in which the body functions, and the presence or absence of Disease or infirmity (Nevid, 1998).

Equity in access to health promotion, that includes disease prevention throughout life, is the cornerstone of healthy ageing. A life course perspective involves recognizing that health promotion and disease prevention activities need to focus on maintaining

Table 1

Year	Present		Future				
	2000	2005	2010	2015	2020	2025	2030
World	606/426 10%	667/905 10/3%	758/750 11/7%	885/741 12/3%	1/021/974 13/6%	1/179/937 15%	1/348/294 16/6%
Developed countries	231/794 19/4%	243/604 20/2%	266/216 21/8%	291/884 23/7%	318/682 25/8%	343/569 27/7%	361/419 29/1%
Developing countries	342/609 8/1%	387/515 86%	450/159 9/4%	544/249 10/8%	645/097 12/3%	267/977 14/1%	906/451 16/1%
Asia	322/161 8/8%	363/510 9/3%	420/933 10/1%	504/708 11/5%	591/507 12/9%	698/466 14/7%	821/752 16/8%
Iran	4/237 6/4%	4/564 6/5%	5/226 6/9%	6/402 7/9%	7/951 9/2%	9/723 10/7%	11/604 12/3%

Table 2

Year	Present		Future			
	2000-2005	2005-2010	2010-2015	2015-2020	2020-2025	2025-2030
World	65/4	66/3	67/2	68/1	69/1	70/2
Developed countries	75/8	76/6	77/3	78	78/7	79/4
Developing countries	66/4	67/3	68/3	69/1	70/1	71/2
Asia	67/2	68/5	69/4	70/2	71/1	72/2
Iran	70/3	71/7	72/8	73/9	74/9	75/9

Fig (1). Iran population demographic transition in year 2000

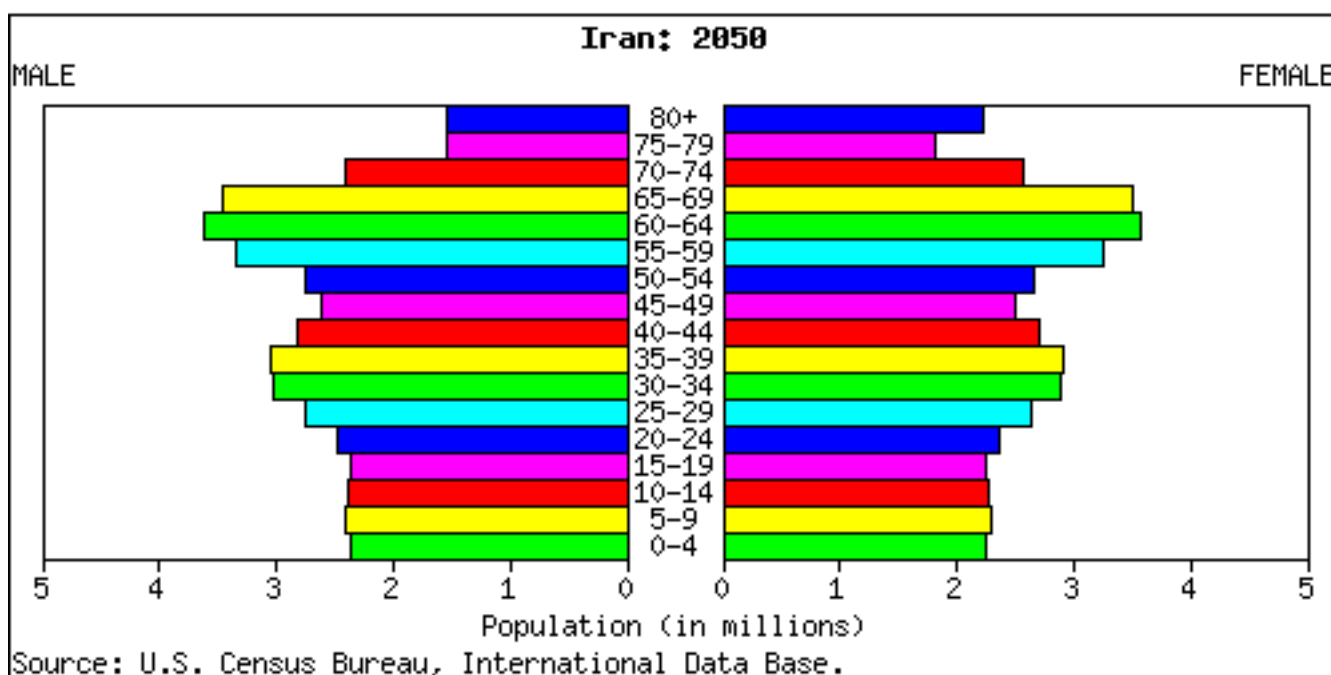


Fig (2). Iran population demographic transition in year 2000

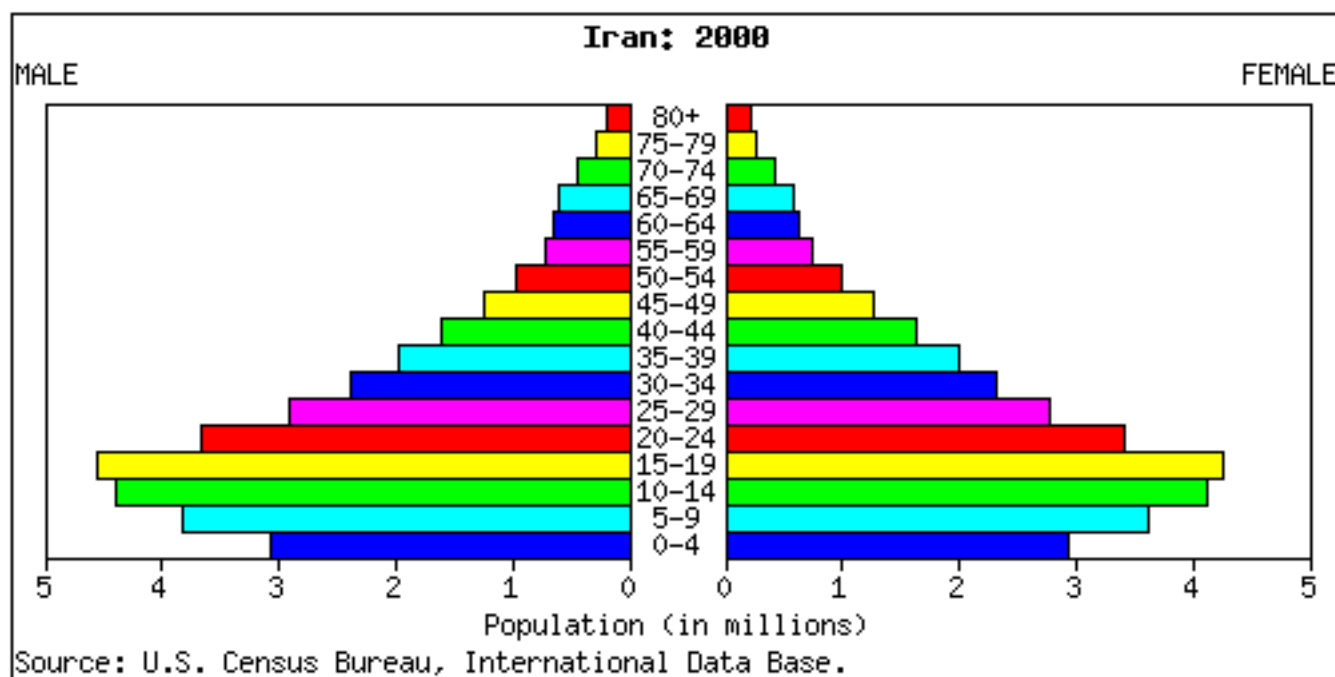
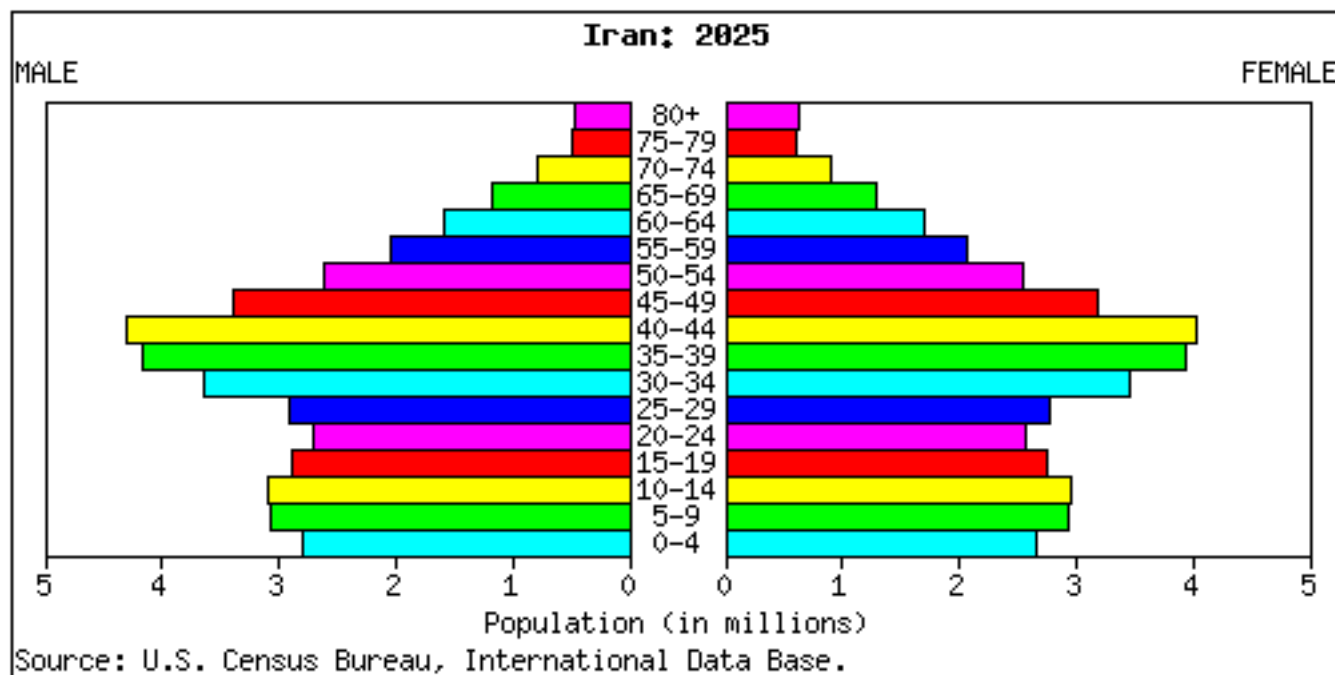


Fig (3). Iran population demographic transition in year 2050



independence, prevention and delay of disease and disability, as well as on improving the quality of life of older people who already have disabilities. Despite improvements in legislation and service delivery, equal opportunities for women through the life course are still not realized in many areas.

A close study to the pattern of disease and disability in aging in countries such as USA, Canada, Korea, China and Iran indicates that Cardiovascular, Arthri-

tis, Cerebrovascular, Accident, Cancer, Hypertension, Ischemia, and body Instability are the most common diseases. In USA the first mortality disease is Cardiovascular, and morbidity is Arthritis (Rubenstein, 1998). In Canada also the first mortality disease is Cardiovascular and morbidity is Arthritis. In Korea the first mortality disease is Cerebrovascular, Accident and morbidity is Arthritis (WHO, 2001). In China the first mortality disease is Cancer and morbidity is Hypertension. In Iran the first mortality disease is Ischemia and morbidity is dizziness

Table 3

Prevalence		1	2	3	4	5
USA	Mortality	Cardio vascular	Cancer	Stroke	COPD	Pneumonia
	Morbidity	Arthritis	HTN	Hearing problem	Heart disease	Cataract
Canada	Mortality	Cardio vascular	Cancer	Pulmonary disorder	Digestive disorder	Diabetes
	Morbidity	Arthritis	HTN	Mental disease	Cardio vascular	-
Korea	Mortality	CVA	Heart disease	Pulmonary Cancer	Digestive Cancer	Diabetes
	Morbidity	Arthritis	Low back pain	HTN	CVA	Gastric ulcer
China	Mortality	Cancer	Cardio vascular	Pneumonia	Arthritis	-
	Morbidity	HTN	Diabetes	Heart disease	Cataract	Ophthalmic disorder
Iran	Mortality	Ischemia	CVA	Traffic	Dizziness	Diabetes
	Morbidity	Instability	Ophthalmic disorder	Dismobility	Dizziness	HTN

- HTN: Hypertension
- COPD: chronic obstructive pulmonary disease
- CVA: Cerebrovascular Accident

Older adults are disproportionately high consumers of medical services. Eighty-five percent of the elderly have at least one chronic disease (Manuck, Jennings, Rabin, & Baum, 2000). Chronic disease accounts for more than 70% of deaths in the United States (Brownson, Remington, & Davis, 1998). Almost 50% of people 65 and older have some degree of arthritis, over 30% have heart disease, about 40% have hypertension, 12% have diabetes, approximately 30% have hearing impairments, about 15% have cataracts, and about 10% have had a stroke (Benson & Marano, 1998; Unutzer, Katon, Sullivan, & Miranda, 1999). In 1987, when older adults constituted 13% of the population, 58% of public health care expenditures and 22% of private health care expenditures were for people 65 and older (Darnay, 1994; Palmer, Heaton, & Jeste, 1999).

Mental disorder and Social Status of the Elderly in Iran

There is no mental disorder that is inevitable in old age. Most older people describe their overall well-being as good. Hence there is such a thing as “normal” ageing in terms of mental (as well as physical) health. Nevertheless, as in all age groups, mental disorder is not uncommon in older people and there are some disorders that become more prevalent as age increases. Mental disorder in old age can be divided into two broad categories:

- 1) Organic disorders,
- 2) Functional disorders.

The prevalence of mental disorder in elderly people depends on exactly which age group is examined and where they are living. In community surveys of all people aged over 65 years, approximately 5% are found to have severe organic brain disorders (mainly dementia) and a further

5% to have mild symptoms of forgetfulness. 2.5-5% will have depression severe enough to warrant treatment with a further 10% complaining of minor depressive/anxiety symptoms.

In 1998, an Epidemiological Survey research using a cross sectional method on 2000 persons of the elderly over the age 60, among 28 provinces all over Iran, was carried out. As a result the mental disorder and Social Status was as follow:

Overall illiteracy rate was very high among the elderly. 79% of urban females and 95% of rural females were illiterate, on the other hand 50.7% of urban males and 71.5% of rural males were illiterate.

Employment rate was 42-64% among elderly males while just 2.7-9.3% of females were paid employees.

Marriage rate in males was two times more than females, so that 37-42% of females had a husband while 86-89% of males had a wife. The reason for this is that men may marry for a second time following loss of their wives while females remain widowed.

Elderly males have numerous sources for their income such as employment, retiring pensions, possessions, and aids received from their children while females just benefit from aid received from their children.

Household facilities: The elderly of rural areas benefit less from facilities such as water piping, electricity, and toilets in comparison to urban dwellers.

Need Assessment of the elderly:

- a. Financial Needs: 63.7% in men and 60.5 in women
- b. Hygiene and sanitarian needs: 51% in men and 63% in women
- c. Welfare needs: 20% in men and 25% in women
- d. Emotional needs such as loneliness, lack of social acceptance, and abandonment were just 9 % in men and 16% in women.

Insurance coverage: 25-30% of the elderly do not benefit from insurance services. There are some insurance service providers such as Medical Services Insurance Company, Organization for Social Security, Armed forces Health Insurance, self-insured and Aid Committee.

Health Status of the Elderly in Iran

According to Survey of the Status of the Elderly of Iran (1998) the health status of elderly is as follow:

Activities of Daily Living (Household and outdoor tasks). The female seniors are less able to take part in outdoor activities such as shopping and transportation.

Sports Activities: Most of the elderly do not take part in sports activities.

- Less than 40% in urban males and less than 20% in rural males
- Less than 21% in urban females and less than 9% in rural females

Average number of physician visits in a year: 14.5 times in urban seniors and 13 times in rural seniors Urban seniors pay more visits to physicians in relation to rural seniors and women pay more visits in relation to men.

20-25 percent of the elderly experience a trauma in a year that could lead to special therapeutic and medical measures. The most important causes of trauma are:

- a. Falls: 11-17%
- b. Poisoning (by food or drugs): 4-5%
- c. Vehicle accidents: 1-2% in rural areas; 20% in urban areas

Females have more cases of falls in comparison to males, on the contrary males experience more vehicle accidents than females

Hospitalization period:

- Out of 3 urban seniors one of them would be hospitalized for 3 days in a year.
- Cardiovascular diseases are the most important cause of

urban seniors' hospitalization

- Eye related diseases are the most important cause of rural seniors' hospitalization

Need for assistive and rehabilitation devices
25% of urban males need eyeglasses or lenses but they do not have one. This reaches to 35% in rural areas. Considering hearing aids this measure reaches to 13% in urban seniors and 16% in rural seniors. There is such a circumstance regarding dental prosthesis or dentorthotics, Wheelchair, crutches, and canes.

Disease and disorders distribution is as follow:

Disorders

- 1 Movement Disorders
- 2 Dizziness
- 3 Balance Disorders
- 4 High Blood Pressure
- 5 Suspicious Angina Pectoris
- 6 Ear Noises or buzzing (Tinnitus)
- 7 Vision Disorders
- 8 Hearing Problems
- 9 Definite Angina Pectoris
- 10 Urinary Incontinency (urge or stress)
- 11 Constipation
- 12 Diabetes
- 13 Painful urination
- 14 Urinary dribbling
- 15 Urinary Incontinency (continuous)
- 16 Hematuria

Discussion and Conclusion

The changing pattern of diseases observed over recent years from infectious disease to chronic and non-communicable disease is a continuous process of demographic transition and is called epidemiological transition. Epidemiological surveillance has a major role to play in identifying the needs and the rates of mortality and morbidity of aged people in every country. The prevalence of cardiovascular diseases among elderly is high as mortality factor and the most common reason of morbidity in the elderly is Arthritis.

In developed countries such as the USA, more than four out of five people over the age of 65 have at least one chronic health problem. Some like varicose veins are relatively minor, others like heart disease pose more serious health risks. Arthritis tops the list, followed by hypertension, hearing impairment, and heart disease. While longevity is increasing so too is the length of time older people are living with chronic health problems.

In Iran the first survey study related to health and aging was done in 1998. The data collected in that study was subjective so there was not so many reliable data related to morbidity factors and pattern of chronic diseases among elderly in Iran. Five chronic conditions mentioned in that study were from subjective data, for example more than 50% of aged people have a disability on moving and transfer, such as arthritis, osteoporosis and 20% of the old aged had not had any accidents by car or falling in recent year. Some important issues of the study were:

The biggest reason for hospitalization in cities is cardiovascular diseases but in villages is ophthalmic and genitourinary diseases.

Smoking among elderly is 30% for old men and 14% for old women.

The pattern of diseases is not the same in the city and in villages so our planning for covering their needs must be different.

Therefore, we need an objective study about epidemiology of diseases among the elderly in Iran to update the previous studies and clarify the exact reasons of dependency and disability of old people. This kind of research could be a suitable guidance for health authorities and policy makers to design a national framework for an aged health system in Iran.

As the speed of aging in developing countries is more rapid than the developed countries, developing countries will have less time than the developed countries to adapt to the consequences of population aging. Currently older persons represent 6.4% of the world's population (approximately 370 millions); 75% live in developing countries and only 25% live in developed countries. There are different consequences of aging in developed countries and they have a national program for covering old aged medical needs such as: geriatric services, geriatric qualified personnel as physicians, nurses, social worker, physiotherapists, care givers, geriatric and gerontologist networks for orientation of old people and their family, when they need medical or social support.

In Iran, as a developing country, the progression rate of aging and the number of aged people is increasing rapidly and a need for a national framework health system for them is obvious. Iran as an Islamic country with 95%

Moslems, has very specific socio-cultural needs, which is mixed with religion. In this collective culture the old people will be supported by their family for all their medical, economic, social and mental needs. Recently because of changing of family size, migration and accommodation problems, there is a trend to transfer elders to nursing homes for better care. Therefore nursing homes grow fast without having enough qualified personnel.

In general, the health policy maker should pay attention to positive socio-cultural factors of the Iranian family. They should encourage the families to keep their old parents in their own family with government support. They should design some cost-effective planning for coverage of aged people needs in the family. Therefore they can stay in their home as long as possible with high quality of life.

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Middle East Network on Ageing Research MENAR

There is a substantial research need in the ageing field in the Middle-East. Research is an essential prerequisite in developing the speciality further in the area, and in developing evidence-based practice. Therefore We are in the process of establishing the Middle East Network on Ageing Research (MENAR) that will be linked to a number of international organization dealing with elderly issues including InterRAI international

The aim of the MENAR is to develop Geriatrics and Gerontology Research in the area, in particular to do the following:

1. To build of the aging research network to fulfil unmet research need.
2. To do collaborative research within the area, and with other networks.
3. To lobby for financial support for research in the Aging field from different organisations.
4. To help in the development of research training programmes, and the professional development of family physicians/researchers.
5. To organise conferences that deals with research in Ageing.
6. To establish a number of experts from a multidisciplinary background to act as advisors and mentors.
7. To help in publication of research studies from the region.
8. To foster collaboration between individual physicians , centres and countries within the Region.
9. To help in the exchange of ideas and methodologies in the area.

For the InteRAI part of the network we would like initially to have one or two persons at the most from each country to be among the network of researcher for the purpose of expanding InterRAI research to the Area and for comparing different instruments across culture. The activity of InterRAI is of high caliber and highly prestigious nature

Membership in the MENAR is being developed rapidly, and now includes representatives from different countries in eastern Mediterranean region. Membership from individuals as well as from networks is being solicited at this time. Membership is free , however any potential contribution will be helpful in strengthening the network. In order to become a member you need to fill the form below and either send it by mail or e-mail to the address below.
Sincerely

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Middle East Academy for Medicine of Ageing (MEAMA)



Advanced Postgraduate Course No. II 2006/2008

The Middle East Academy for Medicine of Ageing was founded in 2002 to stimulate the development of health care services for older people in the region. It was established by a number of professors and teachers from the Middle East and Europe. The Model of MEAMA was taken from the European Academy for Medicine of Ageing. The first course took place between 2003 and 2005. The course has been built up with 4 sessions, on each of 4 days, that cover important topics of health-related problems in older people. The Academy announces the second advanced postgraduate course in geriatrics for the years 2006/2008. The highly successful format of the first course will be followed.

This intensive study course composed of four sessions is directed towards physicians, nurses, social workers, and health care officers, responsible for the health care of older people. In addition to faculty members of medical, nursing, social and physiotherapy schools interested in developing the field of geriatrics and gerontology. The course can also be attended by junior potential academic staff working in other fields (internal medicine, sub-specialities, biology) involving the ageing process and care of elderly people. The complete programme aims to increase scientific, clinical, educational and managerial competences in medical gerontology. A certificate will be issued by the Group of Executive Board of the MEAMA after successfully concluding the four sessions.

The organisers of the Middle-East Academy for Medicine of Ageing organise this course with support of the European Academy for Medicine of Ageing, the European Union of Geriatric Medicine, the Geriatric Medicine Section of the European Union of

Medical Specialists and the International Association of Gerontology.

The New MEAMA website –www.MEAMA.com– will be launching in July 2006.

Executive Board

The Executive Board includes Prof Dr.Sijmen Dursma (The Netherlands), Dr. A. Abyad (Lebanon), Dr. Tawfik A M Khoga (Saudi Arabia), Dr. F. Amin (Kingdom of Bahrain), Prof. Jean-Pierre Michel (Switzerland), Prof. Dr. M.W. Ribbe (The Netherlands) Prof Palmi Johnsson, (Iceland), Ms Lesley Pocock (Australia), Dr. F.Antun (Lebanon), Prof. Omer El Rufaei (United Arab Emirates), Dr Walid A. Al-Malik (Saudi Arabia), Dr. Mona Alshaik Al-mahmood (Kingdom of Bahrain), Mr. Nabil Charaf (Switzerland)

Registration fees

The tuition fee for the entire course of 4 sessions, each of 4 days, amounts to \$ 1200. The fee for separate session amounts \$ 350 per session. The costs for food, accommodation and transportation will be approximately \$ 650 per session of 4 days (This may vary depending on the location of the course).