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Chief Editor:

Abdulrazak Abyad MD, MPH, AGSF, AFCHS
Email: aabyad@cyberia.net.lb

Publisher:

Ms Lesley Pocock
medi+WORLD International
572 Burwood Road,
Hawthorn, Vic Australia 3122
Phone: +61 (3) 9819 1224:
Fax: +61 (3) 9819 3269
Email: lesleypocock@mediworld.com.au

Editorial enquiries:

aabyad@cyberia.net.lb

Advertising enquiries:

lesleypocock@mediworld.com.au

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Editorial

Editor:

Dr Abdulrazak Ahyad

Chief editor

In this issue Dr Dadkhah A, looked at the service framework for older people in Japan. The author stressed that developed countries have thought and planned for population aging, but if the developing countries do not think about programming for health services of aged people, in the near future they will encounter socioeconomic and health crises. The author stressed that developing nations can learn a lot from the Japanese model of care.

A paper from Saudi Arabia looked at lessons from trials. The author stressed that a lot of trials have been published recently discussing the benefits of intensive glucose control versus conventional glucose control. One of these studies was the 10 - year follow - up of intensive glucose control in type 2 diabetes published in the New England Journal of Medicine in October 2008. Although this study reached interesting findings, the number of deaths during this study was too high (1,851 deaths out of 3,277 participants during 10 years). The contrast between the benefits and number of deaths force us to ask this question: Do we need all these deaths?

A paper from Jordan looked at the Value of HbA1c Testing in Diabetic Patients. The aim of the author was to investigate whether HbA1c testing can be used a predictor for the presence of diabetic retinopathy as an example of long term diabetic complications. A prospective study was conducted at Prince Ali Hospital in Southern Jordan. on 120 diabetic patients attending internal medicine clinic were investigated for their HbA1c level. The mean age of patients was 59.3 years. Forty patients were found to have diabetic retinopathy; thirty of them had non-proliferative changes and ten had proliferative retinopathy. HbA1c of more than 9% was associated with the most severe form of retinopathy. The author concluded that HbA1c measurement is a useful test for predicting and monitoring the risk of progression of diabetic retinopathy as an example of longterm diabetic complications.

A paper from Bangladesh attempted to determine if I/A Methotrexate is effective in rheumatoid arthritis.

This study was conducted in medical B unit of Postgraduate Medical Institute, Lady Reading hospital and a private rheumatology clinic in Peshawar.

A total of 40 rheumatoid arthritis patients who were resistant to I/A steroids were included in the study. A total of 28 patients completed two follow ups, one for re-injection and the other for response analysis. The authors concluded that the response rate was 6/28 (21.42%), which is encouraging, besides the patients received only two injections of I/A MTX which was much better than reported in a few studies from abroad. It is the first ever study on I/A Methotrexate from NWFP and probably from Pakistan.

A paper from Iran looked at whether preoperative quality of life predicts adverse outcomes of coronary artery bypass graft surgery in the elderly? Seventy one patients ranging from 60 to 80 years old and who underwent pure CABG were consecutively studied. Patients' quality of life (QOL) was assessed before surgery by using SF-36 questionnaire. Postoperative early complications were also considered. The authors concluded that patients older than 60 years have poor physical role and appropriate social function before CABG, however different aspects of QOL before cardiac surgery may not influence postoperative early outcome.

Do We Need All These Deaths: A Lesson from Three Trials

Authors:

Dr. Almoutaz Alkhier Ahmed, Diabetologist
Saudi Arabia / Gurayat North/ P.O.Box 672

Correspondence:

email: khier2@yahoo.com

ABSTRACT

A lot of trials have been published recently discussing the benefits of intensive glucose control versus conventional glucose control. One of these studies was the 10 - year follow - up of intensive glucose control in type 2 diabetes, published in the New England Journal of Medicine in October 2008. Although this study had interesting findings, the number of deaths during this study was too high (1851 deaths out of 3277 participants during 10 years). The contrast between the benefits and number of deaths force us to ask this question: Do we need all these deaths?

Introduction

I had read with great interest the results of the 10 Year Follow up of Intensive Glucose Control in Type 2 diabetes post trial from UKPDS.

Really, I was shocked about the mortality rate mentioned in the paper and how come the study's supervisors allowed it to continue all these years.

While I was reading the paper, I asked myself this question: Do they need all these deaths to reach to their conclusions?

In 1979, Walters et al⁽¹⁾ followed a group of diabetic patients selected from NHS central register (849 patients) for 11 years to identify causes of deaths. He and his colleagues found that only 306 of the recorded deaths occurred among recorded diabetics during the period of follow up. The following Table (Table 1) showed the analysis of their survey.

During 10 years (1998 - 2008) a subgroup from the UKPDS was selected (Number of participants 3277) and randomly assigned into 3 groups⁽²⁾.

The following Table (Table 2) shows some data from this study.

During 10 years (1998 - 2008) a subgroup from the UKPDS was selected (Number of participants 3277) and randomly assigned into 3 groups⁽²⁾.

The following Table (Table 2) shows some data from this study.

From the methodology of the study, all patients selected were healthy without any history or risks of cardiovascular diseases (page 1578). Selected patients were followed annually in UKPDS clinics for standardized collection of outcome data; clinical examinations every 3 years were continued. In the

years 6 to 10, questionnaires which were used for patients not able to attend were used instead of personal interview due to the lack of funds of the study.

Unfortunately, the study only included the data from the final year, without mentioning data from previous years.

In comparison with the ADVANCE trial⁽³⁾ which continued for a median of 5 years, the following table (Table 3) showed some results as regards number of deaths.

In my opinion, one of the factors that decreased the number of deaths was the protocol of follow up. The researchers stated in their follow up schedule that patients in the intensive group were seen at week 2 after randomization, then at months 1, 2, 3, 4 and 6 and every 3 months thereafter. Those patients were also encouraged to attend other unscheduled visits to improve the monitoring and intensification of glucose control. This close observation may allow early intervention to avoid deaths. Even patients in conventional therapy (standard) were seen at 3, 4 and 6 months after randomization and every 6 months thereafter.

Again, let us look on another study testing the outcome of intensive glucose control which is the ACCORD trial that was extended for 1 year⁽⁴⁾.

The following Table (Table 4) showed number of deaths in the intensive and conventional therapy group.

After one year the safety monitoring committee decided to stop the trial. The committee on January 8, 2008 concluded that the harm associated with the increased rate of death from any cause in the intensive therapy group, as compared in that with conventional therapy (standard) group outweighed any potential benefits.

In my opinion that was the right decision which respected-

human life.

In Summary

The 10 year follow up of intensive glucose control in type 2 diabetes did not need 10 years with this high number of deaths to reach beneficial results.

Number of deaths in comparison with other studies tested the outcome of intensive therapy to control blood glucose was so high (Table 5). In my opinion termination of the study after 5 years from its beginning might give the same results. This opinion was supported by the comments of the researchers that the majority of the participants attended during the first five years.

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Table 1: Mortality rate after 11 years

100%	849	Total number of diabetic patients
42.7%	306	Total number of deaths
This means that the annual rate for deaths was 9% per year		
21%	65	Number of IDDM deaths
79%	241	Number of NIDDM deaths
55%	168	Number of deaths related to vascular causes

Table 2: Aggregate outcomes for patients during follow-up

Comments	Metformin group (over-weight patients) N=342	Conventional therapy Dietary restriction only N=1138	Intensive therapy Insulin-Sulphonylurea group N=2729	
Prevalence of diabetes related deaths in the intensive therapy group, conventional and metformin group was 22.6% , 26% and 23.6% respectively. Total number of deaths related to diabetes was 996 which constitutes 53.8% from total number of deaths.	81	297	618	Diabetes related deaths
Prevalence of death from any causes in the intensive therapy group conventional and metformin group was 42.5% , 47.2% and 44.4% respectively. Total number of deaths was 1851 deaths, so the overall prevalence of deaths related to any cause was 56.5%.	152	537	1162	Deaths from any cause
Prevalence of MI in the intensive therapy group, conventional and metformin group was 24% , 28% and 23.6% respectively.	81	319	678	Myocardial infarction (MI)
	34	116	260	Stroke

Table 3: Comparison of number of deaths between intensive and conventional therapy

Comments	Conventional therapy N= 5569	Intensive therapy N= 5571	
Total number of deaths due to CVDs was 542 (57.5% from total deaths)	289	253	Deaths from CVD
Total number of deaths due to any cause was 942 (8.4%)	533	409	Deaths from any cause

Table 4: Comparison of the number of deaths between intensive and conventional therapy

Comments	Conventional therapy N=5123	Intensive therapy N=5128	
Total number of deaths due to CVD was 229 (49.7% from total deaths)	94	135	Deaths from CVD
Total number of deaths due to any cause was 460 (4.4%)	203	257	Deaths from any cause

Table 5: Comparison of number of deaths

(%)	Total number of deaths due to any cause	Total number of participants	Study
56.5%	1851/ 10 years (185 deaths / year)	3277	The 10 year follow up of intensive glucose control in type 2 diabetes trial
8.4%	942 / 5 years (188 deaths / year)	11140	The ADVANCE trial
4.4%	460 / 1 year	10251	The ACCORD trial
42.7%	306 / 11 year 28 deaths / year		Mortality in diabetic subjects: an eleven – year follow-up of a community – based population

*Original Contribution/Clinical Investigation***Can Preoperative Quality of Life Predict Adverse Outcome of Coronary Artery Bypass Surgery in the Elderly?****Authors:**

1- *Hermineh Aramin, MD., Tehran University of Medical Sciences, Tehran, Iran*

2- *Mehrdad Sheikhatvan, MD., Tehran University of Medical Sciences, Tehran, Iran*

3- *Mahmood Sheikhfathollahi, Biostatistician, Tehran University of Medical Sciences, Tehran, Iran*

Correspondence:

Hermineh Aramin

No. 2, Chenaran Street, Elahieh, Tehran, Iran

Tel: 0098-21-22605884

email: msv_swt@yahoo.com

ABSTRACT

Background and objectives: Self-perception of older patients about their physical ability and mental status may predict outcome after cardiac surgeries. Our study assessed this hypothesis in patients undergoing isolated coronary artery bypass graft surgery (CABG).

Methods: Seventy one patients ranged 60 to 80 years old who underwent pure CABG were consecutively studied. Patients' Quality Of Life (QOL) was assessed before surgery by using SF-36 questionnaire. Postoperative early complications were also considered.

Results: In-hospital mortality was found in one patient and the morbidity rate was estimated as 53.5%. Among different components of QOL, social functioning and 'role physical' had the highest and lowest scores (77.8% and 37.0%, respectively). No statistically significant differences were found in QOL components between the groups with and without early morbidity.

Conclusions: Patients older than 60 years have poor physical role and appropriate social function before CABG, however different aspects of QOL before cardiac surgery may not influence postoperative early outcome.

Keywords: Coronary artery bypass grafting, Quality of life, Elderly, Morbidity

Introduction

The structure of the definition of Quality Of Life (QOL) is mainly based on the individual's perception of his/her position in life regarding sense of well-being, meaning, and value of self-worth^[1]. This self-perception can be influenced by several factors such as gender, age, self status, and cultural factors. Among these factors, age has the most important role because of disability to change health attitude, behavior, and lifestyles in the elderly^[2].

These age groups sufferer from chronic disorders such as acute coronary syndrome and the adverse events of these disorders have been known to be higher in older patients than those younger. Therefore, it seems that the age factor can be an important predictor for outcome of cardiac interventions and can effectively determine postoperative complications such as high morbidity and prolonged length of stay in hospital and

also in intensive care units^[3,4].

According to the fact that a strong relationship has been proved between age and different aspects of QOL and also the potential effects of the age factor on outcome of cardiac surgeries, patient's baseline QOL may have a pivotal role to predict this outcome in the elderly.

We tried to assess this hypothesis in patients undergoing isolated coronary artery bypass graft surgery (CABG) in a sample of older patients among the Iranian population.

Methods

In a prospective study, 71 patients ranging from 60 to 80 years old and who underwent pure CABG at a private hospital in Tehran in 2007 were consecutively entered into the study. Patients who underwent other cardiac or non-cardiac procedures were excluded. The study was approved

by the Research and Ethics Committees of Tehran University of Medical Sciences and all individuals signed an informed consent form before taking part in the study. Baseline characteristics and clinical data of patients including general information, risk factors for coronary artery disease and cardiac status were collected using a self-administered questionnaire on admission day. Patients' QOL was assessed using SF-36 questionnaire by patient interviewing before surgery. The SF-36 questionnaire is a 36-item tool that covers eight dimensions including physical function, role emotional, role physical, bodily pain, vitality, general health, social function, and mental health^[5]. We also considered the two scores of physical and psychological component summary scores.

Our study focused on the effects of different QOL components on early morbidity after CABG. Morbidity was defined as the existence of at least one of these complications: wound infection, dysrhythmias, brain stroke, respiratory failure and myocardial infarction.

Continuous variables were shown as mean±SD and categorical variables were indicated as percentages. Relationships between morbidity and each of the components of QOL were determined using t test for variables with normal distribution or Mann-Whitney U test for other variables. P values of 0.05 or less were considered statistically significant. All statistical analyses were performed using SPSS version 15.0 for Windows.

Results

The mean age of patients was 67.39 years and 33.8% of them were female. Mean of body mass index was 27.47 kg/m² and ranged between 19.7 and 38 kg/m². The most common risk factors for coronary artery disease were hyperlipidemia and hypertension (Table 1).

More than half of the patients had functional class III and also most of them had three involved coronary arteries. Although in-hospital mortality was found only in one patient (mortality rate 1.4%), morbidity rate was estimated at 53.5% (Table 2). Postoperative arrhythmias and respiratory failure were commonly observed in the studied patients; however postoperative myocardial infarction and brain stroke were rare.

Among different components of QOL, social functioning and role physical had the highest and lowest scores (Figure 1). Among these eight dimensions, only means of the two scores of social functioning and bodily pain were higher than 75%.

Comparison of QOL scores between the groups with and without early morbidity found no statistically significant differences in all component scores between the two groups (Figure 2).

Discussion

There are several sets of evidence about expectation of older patients to experience more difficulties after cardiac surgery with an appropriate clinical outcome^[6]. Therefore, determination of factors affecting the life of these patients is vital and necessary. One of these factors may be the patient's perception of life and feelings about himself or herself. In the present study, we obtained two main results:

firstly, we found that among different aspects of QOL, role physical had the lowest scores. It seems that the perception of patients with CAD about their physical ability and functional capacity is dramatically poor and this unacceptable view can adversely influence cardiac and non-cardiac events due to the progression of CAD. In a study by Nejati et al. (April 2008) in Iran, the lowest score of QOL was related to physical role in both genders, whereas the highest scores were related to mental health and social function^[7]. The relationship between physical disability and depressive disorders especially in older men with CAD was previously shown^[8].

According to this fact that most of the studied older patients in our study had high function class and also three coronary arteries involvement, patients' attitude toward their physical ability and physical role in life can be related to the severity of their illnesses so that the patients with severe disability due to severe CAD and its complications notably have poorer attitudes towards their physical role than the patients with early onset CAD.

Another finding of this study was that preoperative QOL of older patients who underwent CABG did not affect the postoperative complications. Similar finding have been obtained in the Najafi et al. (December 2008) study^[9]. Although it seems that the patient's view about their physical and mental situation may have a major effect on outcome of surgery, other factors such as gender, CAD risk factors, medications, and surgical techniques have a more effective role on this outcome, especially in the elderly. It has been clear that the elderly are usually symptomatic yet at high risk for intervention^[10]. Also, it has been found that most of the preoperative CAD risk factors such as hypertension, preoperative cerebral vascular accident, diabetes mellitus and hyperlipidemia are more frequent in older patients than the younger^[11] and this difference can potentially lead to worse postoperative outcomes in the elderly than other age groups. Therefore, it seems that the predictive power of these risk factors on poor postoperative outcome especially in older subjects may be higher than different aspects of preoperative QOL. However, further studies using greater sample size are recommended to highlight the role of patient's perception and his or her psychological status on postoperative outcome.

In conclusion, patients older than 60 years have poor physical role and appropriate social function before CABG, however different aspects of QOL before cardiac surgery may not influence postoperative early outcome.

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Table 1 General characteristics and clinical data of studied patients (n=71)

Female gender	24 (33.8)
Age (year)	67.39±5.06
Body mass index (kg/m ²)	27.47±4.66
Family history of CAD	25 (35.2)
Diabetes mellitus	26 (36.6)
Hyperlipidemia	48 (67.6)
Hypertension	41 (57.7)
Cigarette smoking	23 (32.4)
Opium addiction	5 (7.0)
Cerebrovascular disease	3 (4.2)
Peripheral vascular disease	13 (18.3)
Myocardial infarction	32 (45.1)
Ejection fraction	49.74±8.79
Function class:	
I	27 (38.0)
II	34 (47.9)
III	10 (14.1)
Involved coronary arteries:	
One vessel	4 (5.6)
Two vessels	14 (19.8)
Three vessels	53 (74.6)
Euroscore	3.61±5.63

CAD: Coronary Artery Disease

Data are presented as mean ± SD or number (percentage)

Table 2 Postoperative morbidity in studied patients (n=71)

Mortality	1 (1.4)
Morbidity	38 (53.5)
Wound infection	0 (0.0)
Arrhythmias	31 (44.3)
Respiratory failure	16 (22.5)
Brain stroke	1 (1.4)
Myocardial infarction	1 (1.4)

Data are presented as number (percentage)

Figure 1. Scores of different quality of life dimensions in the elderly

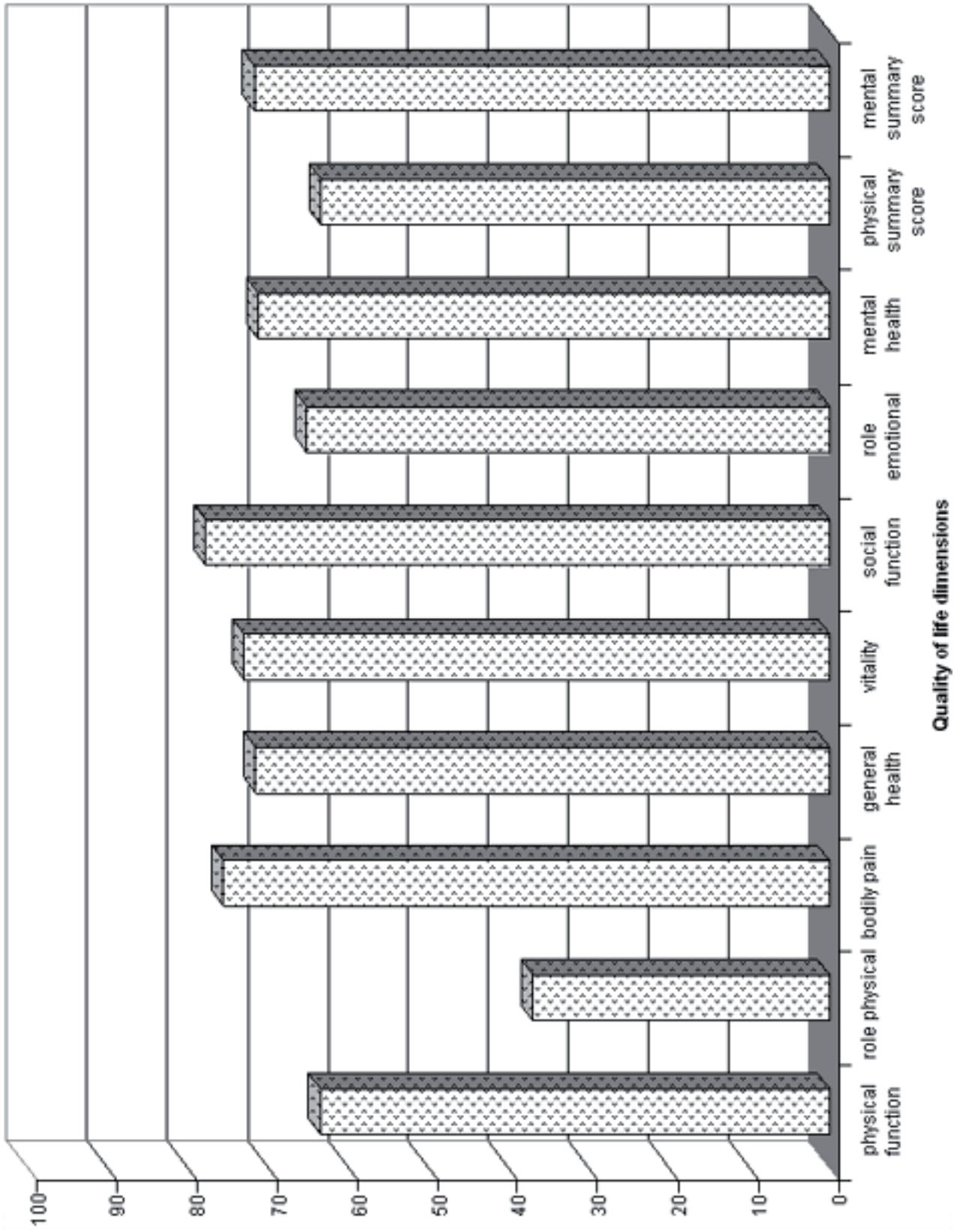
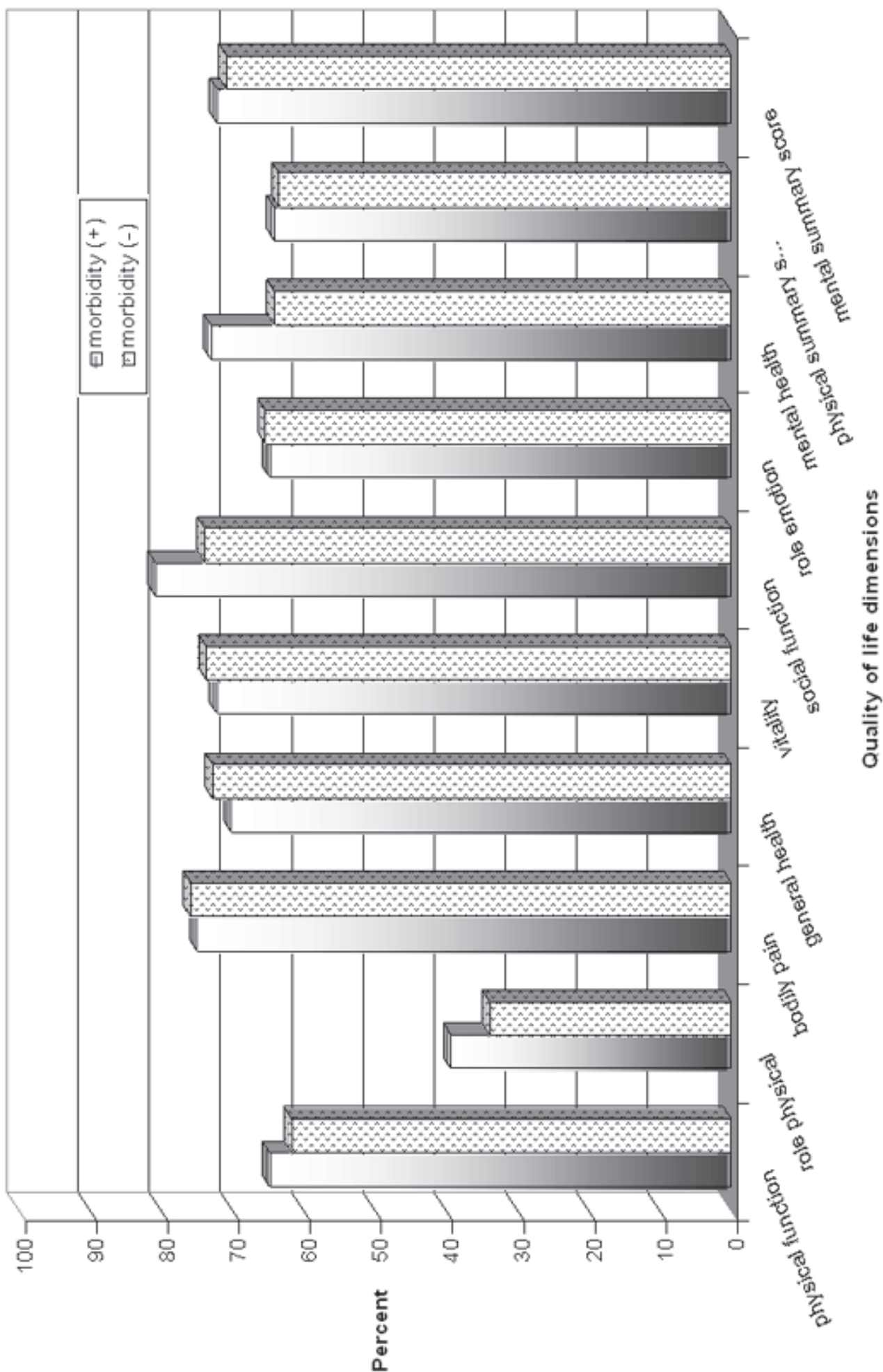


Figure 2. Scores of different quality of life dimensions in the elderly with and without early postoperative morbidity



*Original Contribution/Clinical Investigation***The Value of HbA1c Testing in Diabetic Patients****Foad Al-Btoosh, MD**From the Department of Internal Medicine at Prince Ali Hospital,
Royal Medical Services.**Correspondence:**

foad_btoosh@yahoo.com

ABSTRACT**Objectives:** The aim of this study was to investigate whether HbA1c testing can be used as a predictor for the presence of diabetic retinopathy as an example of long term diabetic complications.**Methods:** A prospective study was conducted at Prince Ali Hospital in Southern Jordan. 120 diabetic patients attending internal medicine clinic were investigated for their HbA1c level. Patients were divided into four categories according to HbA1c level (more than 9%, 7 to 9 %, 5 to 7 %, and less than 5%). Patients were referred to the ophthalmology clinic and investigated for the presence and severity of diabetic retinopathy. Inclusion criteria included patients with type 2 diabetes and duration of illness of more than 10 years. Patients with other medical illness were excluded from the study.**Results:** The mean age of patients was 59.3 years. Forty patients were found to have diabetic retinopathy; thirty of them had non proliferative changes and ten had proliferative retinopathy. HbA1c of more than 9% was associated with the most severe form of retinopathy. The mean duration of diabetes was 11.6 years.**Conclusion:** HbA1c measurement is a useful test for predicting and monitoring the risk of progression of diabetic retinopathy as an example of long term diabetic complications.**Introduction**

Diabetic retinopathy is the leading cause of visual disability in the industrialized countries. Duration of diabetes, type of diabetes, control of blood sugar, associated systemic conditions, age and sex are known risk factors associated with retinopathy and its progression¹⁻³.

The HbA1c, glycosylated hemoglobin test, or glycohemoglobin is an important blood test used to determine how well diabetes is being controlled. It provides an average of blood glucose control over a 6 to 12 week period. It is recommended that glycaemic control be strongly promoted and that HbA1c investigations routinely carried out⁴.

The aim of this study was to investigate whether HbA1c testing can be used as a predictor for the presence of diabetic retinopathy as an example of long term diabetic complications.

Methods

A prospective study was conducted at Prince Ali Hospital in Southern Jordan. 120 diabetic patients attending the internal

medicine clinic were investigated for their HbA1c level. Inclusion criteria included patients with type 2 diabetes and duration of illness of more than 10 years. Patients were divided into four categories according to HbA1c level (more than 9%, 7 to 9 %, 5 to 7 %, and less than 5%). Patients were referred to the ophthalmology clinic and investigated for the presence and severity of diabetic retinopathy. Patients with other medical illness were excluded from the study.

Results

The mean age of patients was 59.3 years with a mean duration of diabetes of 11.6 years.

Forty patients (33.3%) were found to have diabetic retinopathy; thirty of them (25%) had non proliferative changes and 10 (8.3%) had proliferative retinopathy. HbA1c of more than 9% was associated with the most severe form of retinopathy. Among the 10 patients with proliferative retinopathy 8 had HbA1c > 9% and 2 had HbA1c between 7 and 9 %. Patients with HbA1c of less than 5% were not found to have proliferative retinopathy. The 30 patients with non proliferative changes were also found to have a higher level of

HbA1c (Table 1).

Discussion

Global projections suggest that 20% of diabetic cases will develop diabetic retinopathy. Reported factors with high risk of retinopathy are age of the patient, duration of diabetes, presence of ischemic heart disease, a high systolic blood pressure, a high diastolic blood pressure, and an increased level of fasting capillary glucose level⁵⁻⁶. Patients with type 1 diabetes are known to have higher risk of diabetic retinopathy than those with type 2 diabetes⁷. HbA1c levels of more than 9% have higher rates of diabetic retinopathy. When diabetes is not controlled, sugar builds up in the blood and combines with haemoglobin, becoming “glycated.” Therefore, the average amount of sugar in the blood can be determined by measuring an HbA1c level. If glucose levels have been high over recent weeks, HbA1c test will be higher. The amount of HbA1c will reflect the last several weeks of blood glucose levels, typically encompassing a period of 120 days⁸.

For people without diabetes, the normal range for the HbA1c is between 4% and 6%⁹. Because studies have repeatedly shown that out-of-control diabetes results in complications from the disease¹⁰⁻¹¹, the goal for people with diabetes is an HbA1c less than 7%. This study confirmed that the higher the HbA1c, the higher the risks of developing diabetic retinopathy. Patients with HbA1c level of less than 7% were most likely to have mild retinopathy compared to patients with HbA1c level of more than 9% who developed the most severe complications. Patients with HbA1c level between 7-9% were intermediate in risk of progression but did not significantly differ from those with HbA1c less than 7%. The conclusion is that patients with levels above 9% are the group with highest risk of progression.

In conclusion, HbA1c level should be done routinely for diabetic patients. It is considered a useful test for predicting and monitoring the risk of progression of diabetic retinopathy.

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Table 1. Number and percentage of patients with the severity of retinopathy and its relationship with HbA1c level.

Stage	HbA1c	HbA1c	HbA1c	HbA1c	Total
	>9%	7-9%	5-7%	< 5%	
Non proliferative retinopathy	18 (15%)	8 (6.7%)	3 (2.5%)	1(0.8%)	30 (25%)
Proliferative retinopathy	8 (6.7%)	2 (1.7%)	-	-	10 (8.3%)
Total	26 (21.7%)	10 (8.4%)	3(2.5%)	1(0.8%)	40 (33.3%)

Review Article

Intra Articular (I/A) Methotrexate in Rheumatoid Arthritis

Authors:

Mohammad Amjad Taqweem, Hamzullah Khan, Amara Takreem, Intekhab Alam

Medical B Unit, Department of Medicine, Post-Graduate Medical Institute, Lady Reading Hospital, Peshawar

Correspondence:

DR Hamzullah Khan

MBBS, MPH PG Student, Institute of Computer and Management Sciences, Hayatabad, Peshawar

Senior House Officer: Medical B Unit, Department of General Medicine, Postgraduate Medical Institute, Government Lady Reading Hospital Peshawar, Pakistan

Associate Editor Journal Postgraduate Medical Institute, JPMI

Government Lady Reading Hospital Peshawar, Pakistan.

Phone Number: 0092-345-9283415

Email: hamzakmc@gmail.com

Mailing Address:

Room No-10, House Job Doctor Hostel, Lady Reading Hospital (PGMI/LRH), Peshawar, Pakistan

ABSTRACT

Objectives: To determine if I/A Methotrexate is effective in rheumatoid arthritis.

Material and methods: this study was conducted in medical B unit of Postgraduate Medical Institute, Lady Reading hospital and a private rheumatology clinic in Peshawar.

A total of 40 rheumatoid arthritis patients who were resistant to I/A steroids were included in the study. At first visit 12.5 mg of intra-articular Methotrexate with lignocaine was injected with aseptic technique. Twenty eight patients completed follow up and again 12.5 mg I/A Methotrexate was given. Clinical improvement was assessed with visual analogue scale (VAS) and parameters like pain, swelling, flexion and ESR. Patients with septic joints, sepsis around the joint, I/A steroids within last three months and bleeding disorders were excluded from the study.

Results: A total of 28 patients completed two follow ups, one for re-injection and the other for response analysis. Eighteen (64.3%) were females and 10 (35.7%) males. The age range was from 40 to 50 years with mean age of 45.9643 +3.21 SD years. No response was received from 11 patients, 6 females and 5 males, with VAS 10/10 for pain and swelling, flexion up to 30 degree and ESR>60mm/hr. Partial response was recorded in 11 patients 7 females and 4 males, with VAS 5-10/10 for pain and swelling, flexion 30-90 degree and ESR 41-60mm/hr. Good response (VAS 0-4 /10 for pain and swelling) was noted in 6 patients with flexion >90 degree and ESR 20-40mm/hr.

Conclusion: Our study response rate was 6/28 (21.42%) which is encouraging; besides our patients received only two injections of I/A MTX and results were much better than as reported in a very few studies from abroad. It is the first ever study on I/A Methotrexate from NWFP and probably from Pakistan.

Key words: I/A Methotrexate, response, Peshawar.

Introduction

Based on visual observation, the ancients characterized inflammation by five cardinal signs, namely redness (rubor), swelling (tumor), heat (calor; only applicable to the body's extremities), pain (dolor) and loss of function (functio laesa). The first four of these signs were named by Celsus in ancient Rome (30-38 B.C.) and the last by Galen (A.D 130-200).

More recently, inflammation was described as "the succession of changes which occurs in a living tissue when it is injured, provided that the injury is not of such a degree as to at once destroy its structure and vitality", or "the reaction to injury of the living microcirculation and related tissues¹.

Rheumatoid arthritis (RA) is a chronic, systemic autoimmune disorder that causes the immune system to attack the joints, where it causes inflammation (arthritis) and destruction. It can also damage some organs, such as the lungs and skin. It can be a disabling and painful condition, which can lead to substantial loss of functioning and mobility. It is diagnosed with blood tests (especially a test called rheumatoid factor) and X-rays². Diagnosis and long-term management are typically performed by a rheumatologist, an expert in the diseases of joints and connective tissues³.

Various treatments are available. Non-pharmacological treatment includes physical therapy and occupational therapy.

Analgesia (painkillers) and anti-inflammatory drugs, as well as steroids, are used to suppress the symptoms, while disease-modifying anti-rheumatic drugs (DMARDs) are often required to reverse the disease process and prevent long-term damage. In recent times, the newer group of biologics has increased treatment options³. I/A steroid injections are commonly used for acute painful joints. A meta-analysis supports the recommendations of American and international authorities that I/A injection of corticosteroids provides short-term relief of the pain. I/A corticosteroids result in a clinically and statistically significant reduction in knee pain 1 week after injection that continues for 3 to 4 weeks^{4,5}. Cortisone therapy has offered relief in the past, but its long-term effects have been deemed undesirable⁶. However, cortisone injections can be valuable adjuncts to a long-term treatment plan, and using low dosages of daily cortisone (e.g., prednisone or prednisolone, 5-7.5 mg daily) can also have an important benefit if added to a proper specific anti-rheumatic treatment. Still there are some cases that are resistant to intra-articular steroids and international data has recently shown that Methotrexate has been tried intra-articularly and has shown its effectiveness as reported in various trials⁷⁻¹⁰.

The present study was a continuation of the recently conducted trial to see the effectiveness of I/A Methotrexate.

Methods

A total of 40 rheumatoid arthritis patients who were resistant to I/A steroids were included in the study. Twenty eight patients completed twice follow up one for re injection and other for response analysis. Eighteen (64.3%) were females and 10 (35.7%) males. The age range was from 40 to 50 years with mean age of 45.9643 +3.21 SD years. Proper informed consent was taken from all the respondents.

Inclusion criteria were all rheumatoid arthritis patients with single knee joint involvement, not responding to I/A steroids. While exclusion criteria were all patients with septic joints, sepsis around the joint, I/A steroids within last three months and bleeding disorders. After proper selection of patients, at first visit 12.5 mg intra-articular Methotrexate with lignocaine was injected with aseptic technique. Twenty eight patients completed follow up and again 12.5 mg I/A Methotrexate was given. Combination with lignocaine was aimed to increase the volume of the drug to cover more joint space. Twenty eight patients completed follow up and again 12.5 mg I/A Methotrexate alone was given. Clinical improvement was assessed with parameters of pain, swelling, flexion and ESR. Visual analogue scale was used for pain analysis. A Visual Analogue Scale (VAS) is a measurement instrument that tries to measure a characteristic or attitude that is believed to range across a continuum of values and cannot easily be directly measured. For example, the amount of pain that a patient feels ranges across a continuum from none to an extreme amount of pain. It asks the patient how severe is your pain right now, as shown in the Figure 1.

No  pain agonizing pain¹¹.

Swelling and joint flexion was clinically assessed and swelling was also weighted on VAS. ESR was done in all visits and compared. Both readings were noted on a specially designed proforma prepared in accordance with the objective

of the study.

Furthermore our trial was in accordance with CONSORT (consolidated standard of reporting trials) trial guidelines and its flow chart was as follows (end of the article):

Finally data collected was entered in SPSS¹¹ version and was analyzed in frequency, median mode statistics for age and sex parameters and cross tabulation analysis was done for pain, swelling, flexion and ESR.

Results

A total of 28 patients completed two follow up visits, one for re-injection and the other for response analysis. Eighteen were females and 10 males (Table 1). The age range was from 40 to 50 years with mean age of 45.96 +3.21 SD years (Table 2). Visual analogue scale (VAS) analysis was used to see the response along with clinical examination and ESR. No response was received from 11 patients, (6 females and 5 males) with VAS 10/10 for pain and swelling, flexion up to 30 degree and ESR>60mm/hr. Partial response was recorded in 11 patients (7 females and 4 males), with VAS 5-10/10 for pain and swelling, flexion 30-90 degree and ESR 41-60mm/hr. Good response (VAS 0-4 /10 for pain and swelling) was noted in 6 patients with flexion >90 degree and ESR 20-40mm/hr. Flexion, swelling and sex cross tabulation clinically elicited response analysis of patients is shown in Table 3. Reduction in ESR improvement in pain that was orally explained by patient and recorded in terms of percentage improvement is shown in Table 4.

Discussion

There is no cure for rheumatoid arthritis. Treatment for rheumatoid arthritis aims to reduce inflammation in joints in order to relieve pain and prevent or slow joint damage. Clinical results from trials conducted on I/A Methotrexate support the hypothesis that Methotrexate may be used intra-articularly as an immuno-suppressor rather than at the heavily toxic doses required for a cytostatic effect. Furthermore repeated intra-articular injections of MTX results in a decrease of local as well as systemic inflammatory signs in RA 8,13. Intra articular MTX therapy results in a strong decrease of SF-granulocyte counts. This effect may be due to the impairment of IL-8 mediated chemotaxis by decreased IL-8 synthesis in synovial fluid mononuclear cells 14. Our patients received two injections in a dose of 12.5mg of MTX one month apart but still the response was satisfactory. In another study patients with definite RA and knee effusions under constant doses of DMARD therapy were treated with up to 6 intra-articular injections of 10 mg Methotrexate (MTX) every 3 to 7 days¹⁴. Iagnocco A, et al⁹ treated his patients with intra-articular injections of MTX 10 mg every 7 days for 8 weeks. Hence with a disciplined dosage and proper follow up a much better response can be achieved. But as it was the first ever attempt here it was not properly arranged. In the present study visual analogue scale (VAS) analysis was used to see the response along with clinical examination and ESR. Iagnocco A, et al⁹ also assessed the response of MTX I/A therapy through clinical evaluation measuring maximal knee flexion angle, visual analog scale (VAS) and erythrocyte sedimentation rate (ESR).

Ultrasonographic examination of the involved knee was performed to see synovial thickness in the suprapatellar bursa and the presence of joint effusion and Baker's cyst. We observed that no response was received from 11 patients (6 females and 5 males) with VAS 10/10 for pain and swelling, flexion up to 30 degree and ESR>60mm/hr. Partial response was recorded in 11 patients (7 females and 4 males), with VAS 5-10/10 for pain and swelling, flexion 30-50 degree and ESR 41-60mm/hr. Good response (VAS 0-4 /10 for pain and swelling) was noted in 6 patients with flexion >50 degree and ESR 20-40mm/hr. Iagnocco A et al⁹ also concluded that repeated intra-articular injections of MTX resulted in a decrease of local as well as systemic inflammatory signs. But Gao IK et al¹⁴ reported that repeated intra articular MTX therapy results in a worse 13 week outcome than I/A. steroid treatment measured in an intention-to-treat analysis. As far as we know, this is the first study reported from NWFP that explores the effects of intra-articular MTX in RA clinically.

Further studies are encouraged to prove effects of intra-articular MTX in RA by ultrasonography of joints. Our study has reported 28 cases with I/A MTX which are far greater than many trials that have reported on IA Methotrexate around the world^{8, 9, 10, 14} etc.

Conclusion

Our study response rate was 6/28 (21.42%) which is encouraging; besides our patients received only two injections I/A MTX and this was much better than as reported in a very few studies from abroad.

It is the first ever study on I/A Methotrexate from NWFP and probably from Pakistan as we have searched on pubmed, pakmedinet, and Google search. Furthermore we reported more of cases than have so far been published in literature.

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Figure 1

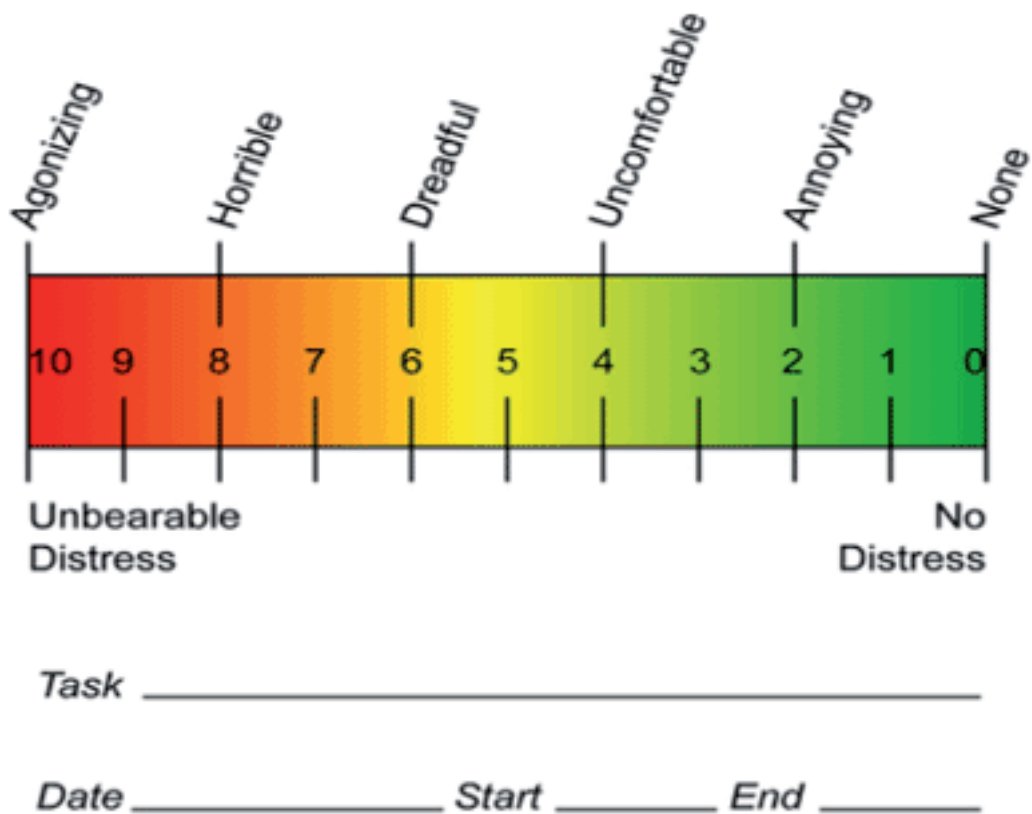


Figure 2 Flow chart of the trial based on CONSORT trial guidelines 12

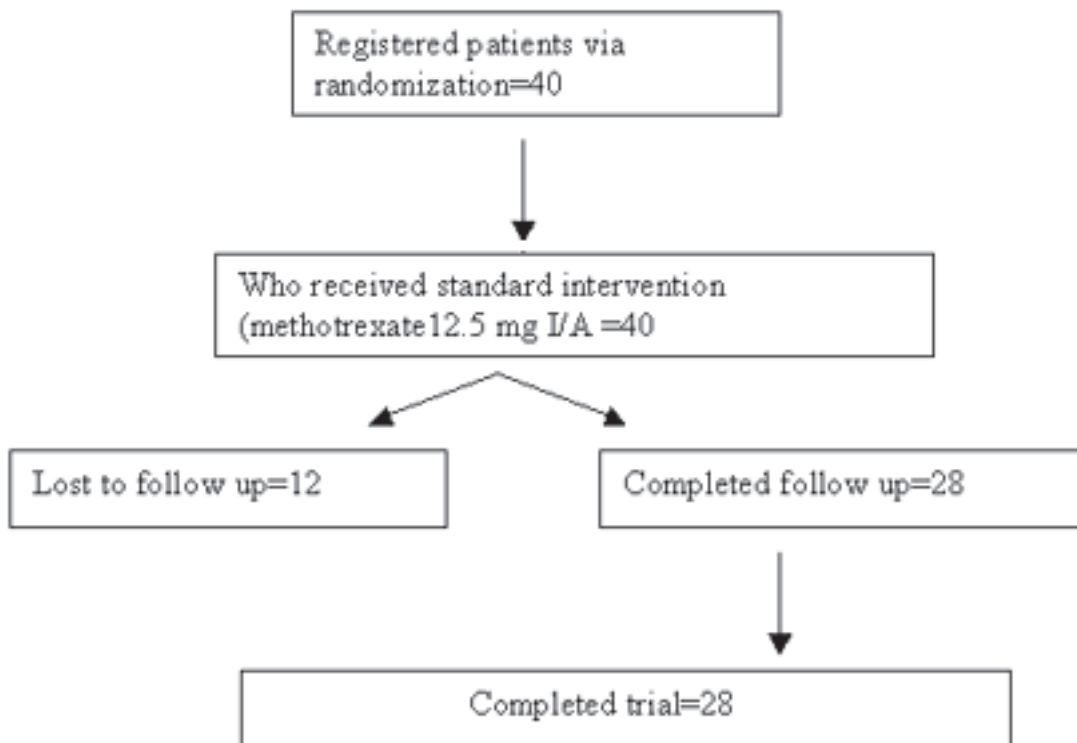


Table 1. Sex wise distribution of patients:

Sex	Number of patients	Percentage %
Males	10	35.71
Females	18	64.28

Table 2. Age Statistics of patients:

Total number of the respondents	28
Mean	45.9643
Median	46.0000
Mode	50.00
Std. Deviation	3.21434
Range	10.00
Minimum	40.00
Maximum	50.00

Table 3. Flexion, swelling and sex cross tabulation clinically elicited response analysis of patients:

Sex	SWELLING (clinically assessed and then presented on VAS)					Total
			VAS score 10/10	VAS score 5-10/10	VAS score 0-4/8	
Males	FLEXION	Flexion up to 30 degree	5			5
		Flexion 30-90 degree		4		4
		Flexion more than 90 degree			1	1
		Total	5	4	1	10
Females	FLEXION	Flexion up to 30 degree	6			6
		Flexion 30-90 degree		8		8
		Flexion more than 90 degree			4	4
		Total	6	8	4	18

Table 4. ESR * Pain * Sex -Cross Tabulation response analysis

SEX	PAIN					Total
			VAS score 10/10	VAS score 5-10/10	VAS score 0-4/8	
Males	ESR	20-40 mm/hr			1	1
		41-60mm/hr		4		4
		>60mm/hr	5			5
	Total		5	4	1	10
Females	ESR	20-40 mm/hr			4	4
		41-60mm/hr		8		8
		>60mm/hr	6			6
	Total		6	8	4	18

Service Framework for Older People in Japan: A Guideline for Asian Countries

Authors:*Asghar Dadkhah, PhD.*University of Welfare and rehabilitation
Iranian research center on Aging, Tehran**Correspondence:**Dr Asghar Dadkhah, University of Social Welfare
and Rehabilitation,
Evin, Kудakyar Avenue, Tehran 19834, Iran
Email: asgaredu@uswr.ac.ir**ABSTRACT**

Developed countries have thought and planned for population aging, but if the developing countries do not think about programming for health services of aged people, in the near future they will encounter socioeconomic and health crises. A better understanding of aging society which covers different dimensions of economic, welfare, health and treatment helps to identify the challenges facing aging. What distinguishes the aging of Japanese society from that of other industrialized societies is its rapid pace. In 1995, elderly persons made up only 14.6% of the population. Current projections are that this proportion will nearly double to 27.4% in the year 2025. The proportion of working age people to Japan's entire population is also sharply declining. By 2050 it is expected that one in every three persons will be 65 years old or over. This will be not so much due to an increase in the average lifespan as to the decreasing birthrate; that is, the Japanese will have fewer children.

Until now, the elderly in Japan have lived relatively comfortable lives partly because of the financial stability made possible by pensions and partly because of the availability of low-cost medical care under the universal insurance system. Below the surface, however, lie some concerns, such as long-term care, medical insurance finance and pension finance. The Gold Plan and the long-term care insurance bill are intended to address long-term care issues, and the Angel Plan is designed to improve the low birthrate issue. In addition, as the proportion of the elderly grows, old-age pension payments will decrease and the Laws designed to protect their human rights and human dignity, including adult guardian law, should be passed. Another knotty problem is how the values of the older generations can be transmitted to the young. This is a particularly crucial issue in Japan where there is almost no continuity of values between the old and the young.

This study provides a comprehensive description of the older population in Japan to foster a better understanding of their experiences and challenges. The information we are interested in includes population dynamics in Japan, its contributing factors, its social implications, current conditions of the Japanese elderly, and social policies that are related to the elderly.

Key words: Aging in Japan; Japan, health, economic; sanity; insurance; retirement; population aging.

Introduction

Aging, of course, is a phenomena not isolated to any one nation, language, or culture. Nations around the globe are attempting to cope with unprecedented numbers of persons who will live longer than ever before in human history. In response to this pervasive trend, the generation of new knowledge in environment and aging is occurring around the globe.

In many countries around the world, including Japan, decreasing birth rates and higher life expectancy are resulting

in a demographic shift known as population aging—a shift to a higher share of older people in the population. Japan's high percentage of the population age 60 or older is expected to rise further, from 27 percent in 2006 to an estimated 42 percent by 2050 (WHO Kobe Centre, 2001, 2002).

For Japan, the central cause of the rapid rate of aging is not only the higher life expectancy among the elderly and the resultant increase in their number, but also the steady decline in numbers among the younger generations. When Japanese people talk about “the elderly,” they usually mean “people aged 65 and over.” In the meantime, a number of corporations

set a mandatory retirement for their employees at age 60, and those retirees are often considered “the elderly” (AARP 2006).

As of October 1, 2005, the total Japanese population was approximately 127.76 million, of which 26.82 million or 21.0% were aged 65 and over. In other words, Japan is the most aged society in the world. While Japanese population has been declining since 2005, the population aging will continue. The proportion of the elderly is expected to become 35 % and by 2040.

Data Gathering Methods

From the reliable documents and author experiences and observations during 10 years stay in Japan and some interviews with experts in the field of aging, the information was collected and presented in this study.

Features of Japan's Aging Society

Japan as predicted as one of most aged countries is about to face a population decline as of 2005 (Takagi, F., 2006). In Figure 1 the trend of population growth for males and females from 1950 to 2050 is illustrated. It is very clear that population decline started from 2005.

According to US Census Bureau, the population of Japan in 2007 was 127.34 million from which 62.25 million were male and 65.18 million were female (Figure. 2).

Declining Birth Rate and Aging Population

From the eighteenth century through the first half of the nineteenth century, Japan's population remained steady, at 30 million-plus citizens. However, following the Meiji Restoration in 1868, it began expanding in tandem with the drive to build a modern nation-state. In 1926, it reached 60 million, and in 1967, it surpassed the 100 million mark.

However, Japan's population growth has slowed in more recent years, with the annual pace of population growth averaging about one percent from the 1960s through to the 1970s. Since the 1980s, it has declined sharply. The population figure of 127.76 million released in the 2005 Population Census was below the 2004 population estimate (127.78 million). This marked the first time since World War II that the population has fallen compared to the previous year, and the beginning of a population decline in Japan.

Comparing the age structure of Japan's population, the population pyramid of 1950 shows that Japan had a standard-shaped pyramid with a broad base. However, the shape of the pyramid has changed dramatically as the birth rate and death rate have declined. In 2005, the population of elderly citizens (65 years and over) was 26.82 million, constituting 21.0 percent of the total population and marking record highs in both number and percentage terms. The speed of aging of Japan's population is much faster than in advanced Western European countries or the U.S.A. Although the population of the elderly in Japan accounted for only 7.1 percent of the total population in 1970, 24 years later in 1994, it had almost doubled in scale, to 14.1 percent. In other countries with an aged population, it took 61 years in Italy, 85 years in Sweden, and 115 years in France for the percentage of the elderly to increase from 7 percent to 14 percent of the population. These comparisons clearly highlight the rapid progress of

demographic aging in Japan (Campbell JC, Ikegami N., 2000, 2007).

Population of elderly citizens in Japan

In 2005, the population of elderly citizens (65 years and over) was 26.82 million, constituting 21.0 percent of the total population and marking record highs in both number and percentage terms. The speed of aging of Japan's population is much faster than in advanced Western European countries or the U.S.A. Although the population of the elderly in Japan accounted for only 7.1 percent of the total population in 1970, 24 years later in 1994, it had almost doubled in scale, to 14.1 percent. In other countries with an aged population, it took 61 years in Italy, 85 years in Sweden, and 115 years in France for the percentage of the elderly to increase from 7 percent to 14 percent of the population) Takagi, F., 2006). These comparisons clearly highlight the rapid progress of demographic aging in Japan. The proportion of the elderly is expected to become 35 % by 2040.

Life expectancy at birth, healthy life expectancy

Japanese life expectancy at birth has grown constantly, from 50 years for males and 54 years for females in 1947 to 78.5 years for males and 85.5 years for females in 2005 and is expected to be 79.8 for males and 87.6 for females between 2020 and 2025. According to WHO, Japan also has the highest health expectancy. As of 2002, it was 72.3 years for males and 77.7 years for females (Japan Aging Research Center, 2007).

Currently, the life expectancy at age 65 is 18.1 years for males and 23.2 years for females. Hence, those who are currently 65-year-old are expected to live for 83.1 years if they are males and 88.2 years if they are females. These numbers are higher than the life expectancy at birth.

Health care system and insurance

The introduction of Japan's long-term care insurance system in April 2000 has made long-term care an explicit and universal entitlement for every Japanese person aged 65 and older based strictly on physical and mental status. At the start of the program, more than two million seniors were expected to apply for services to approximately 3,000 municipal governments, which are the system insurers. The Japanese healthcare system provides a high degree of equity of access by geographical areas despite the apparent unevenness in the distribution of medical personnel and facilities across regions. If the crude mortality rate of each prefecture is taken as a proxy for the need for healthcare, there are good correlations between the need and access rates variously measured, i.e. doctors and beds per capita, consultations and admissions per capita and health expenditure per capita. Thus, the uneven geographical distribution of resources and treatments largely reflects different needs in different prefectures. This is a result mainly of universal health insurance but has been reinforced by the regional medical plans drawn up by prefecture governors to rectify geographical imbalances. It is not possible to carry out a similar analysis of equity of access across income groups in the absence of relevant mortality and morbidity information (Ministry of Health, Labour and Welfare, 1999).

In the Japanese system neither the consumer's choice of

health insurers nor the insurer's choice of service providers is possible. People are assigned an insurer according to their employment situation or residence. Service providers are now designated by the central government as eligible for treating patients under the social health insurance.¹² Competitive forces operate only in the market for services, with no guarantee that this results in efficient resource allocation, in the absence of basic attributes of a well functioning market. For example, high demand for the outpatient services in large hospitals is largely due to the fee structure and the absence of objective information concerning the quality of service providers. Hospitals find the outpatient service an attractive revenue source not only because of the relatively generous payments by insurers but also because it represents an important source of admission to beds. About 60 per cent of admissions resulted from consultation in the outpatient department of hospitals (Sasaki, Yamaguchi, 2006).

Long-term Care

The Japanese government drew up the Ten-Year Strategy to Promote Health Care and Welfare for the Elderly (Gold Plan) in 1989. In December 1994, five years into the plan, the New Gold Plan was formulated to incorporate revisions to the first plan and increase its effectiveness. Goals for establishing urgently needed infrastructure for care services for the elderly were identified and basic frameworks for additional policies, which must be pursued in the near future, were presented. Moreover, a long-term care insurance bill was submitted to the National Diet with the aim of providing more efficient long-term care services starting with the year 2025 (Borowski A, Schmid H.; 2000).

Working Status and pension of seniors in Japan

A mandatory retirement was normally set at age 55 in Japan between 1920s and 1980s. The life after a mandatory retirement was considered as being "the elderly." A mandatory retirement age started rising in the 1980s. As of the beginning of the 21st century, employment rates for those aged 55 to 59 are about 94% for males and about 59% for females. Rates for those aged 60 to 64 are about 72% and 39.5% for males and females, respectively. For people aged 65 and over, employment rates are about 33% for males and about 14% for females. While the working-age (15-64) population has been declining in Japan, the number of the elderly (both aged 60+ and 65+) is increasing rapidly. Baby-boomers will be in their 60s by 2010, and our society needs preparations for the population aging including those baby-boomers (Ikegami, 2007).

In Japan, the pension system covers nearly the entire population of the country, just like medical insurance. However, the system itself is very complex. It is divided into five schemes depending on whom you work for, and contains gaps in benefit amounts among the different schemes. Thus, the integration of the system remains a significant challenge for the future. In addition, pension benefits rose markedly after the pension system was reformed in 1973, and since then several additional revisions have been made. Now, however, a reduction in current pension benefits is being debated due to a serious concern over future financing of the pension system.

Conclusion

Although many are anxious about their future, the majority of older citizens at least today enjoy very favorable conditions. The main reason is the expansion/improvement of the medical care system and the financial stability primarily provided by the pension program.

By 1995, the average life expectancy at birth for men had risen to 76.38 years while that for woman had reached 82.85 years, and life expectancy in Japan has been the highest in the world since the middle of the 1990s.

As of 2005, the total Japanese population was approximately 127.76 million, of which 26.82 million or 21.0% were aged 65 and over. In other words, Japan is the most aged society in the world.

According to the experiences of Japanese aging strategy the following key points should be focused on:

1. Dignity

Like people of other generations, the elderly should be given respect for their dignity as individuals.

2. Social Participation

In order to create a society in which all generations can live in security, it is necessary that older persons lead active lives. To this end, society at large should develop businesses and occupations which utilize the skills of older persons and expand opportunities for those who are eager to actively participate in the society.

3. Social Contribution

In order to create the society for all generations to live in peace, older persons shall interact with younger generations and participate in activities which contribute to the society, in such fields as social welfare, environmental maintenance, community development, dissemination of traditional culture and international exchange.

4. Health Promotion

Older persons shall maintain their own physical functions so that they can lead fulfilling lives in the society. To this end, support systems such as municipal health centers and health promotion networks should be fully developed.

5. Community Development

In order to create a safe living environment for people regardless of physical abilities and living skills, development of housing and communities without barriers should be a central theme in public works. At the same time, people should all try to remove their own psychological barriers and help each other in the society.

6. Social Security Systems

Pensions, health insurance, long-term care insurance and other social security systems need to be fully established to meet people's needs throughout their life courses, and society should enable all generations to enjoy security through these systems. Based on the spirit of mutual support, the systems should be run efficiently with fair financial responsibilities, and the systems should be constructed comprehensively so as to ensure the vitality of society as a whole. People receiving

services through these systems must bear part of the cost so far as it is possible and appropriate, and their autonomy must be respected as much as possible.

7. Lifelong Learning

In order to support diverse lifestyles of older persons, means should be provided for lifelong learning. In addition, systems should be developed so that the experience and knowledge of older persons can be utilized in education of children and young people.

Men and women of all generations, including the elderly, shall work together to accomplish these goals.

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Figure 1 Japanese population transition: 1950-2050

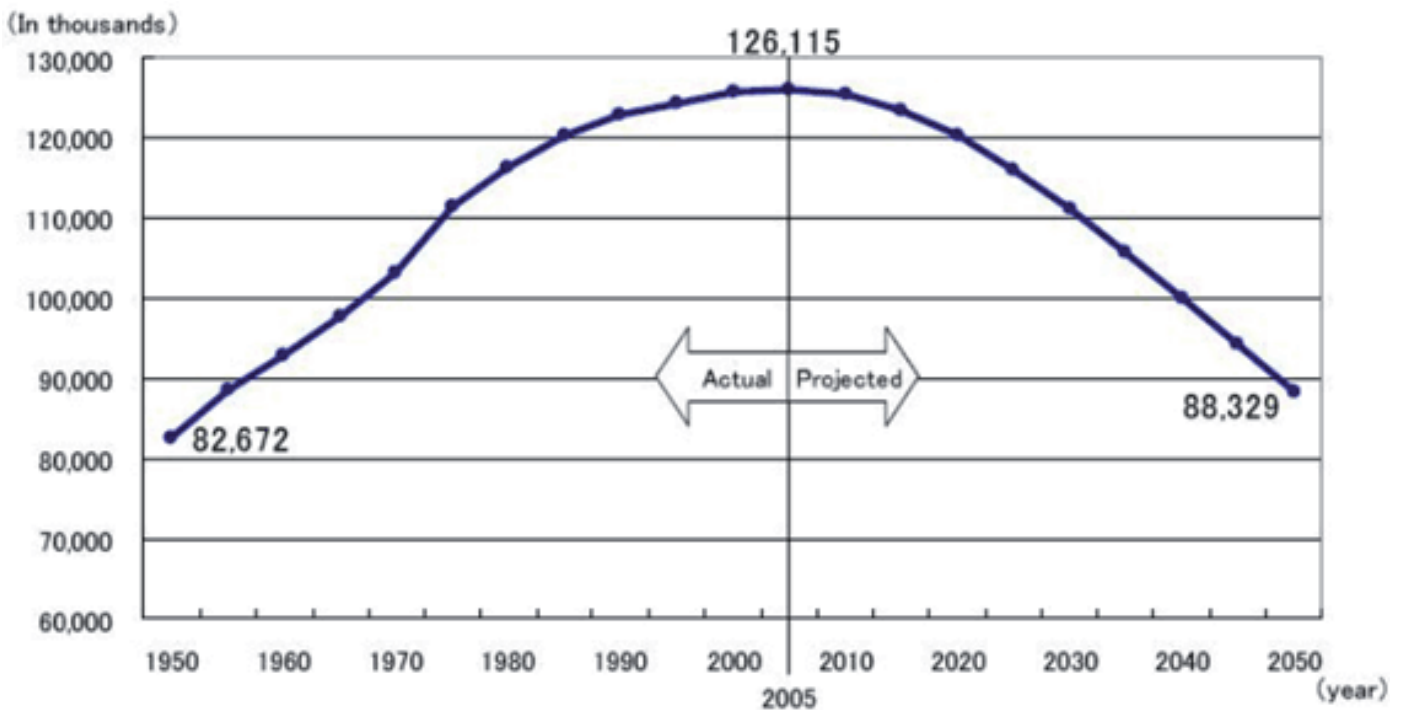
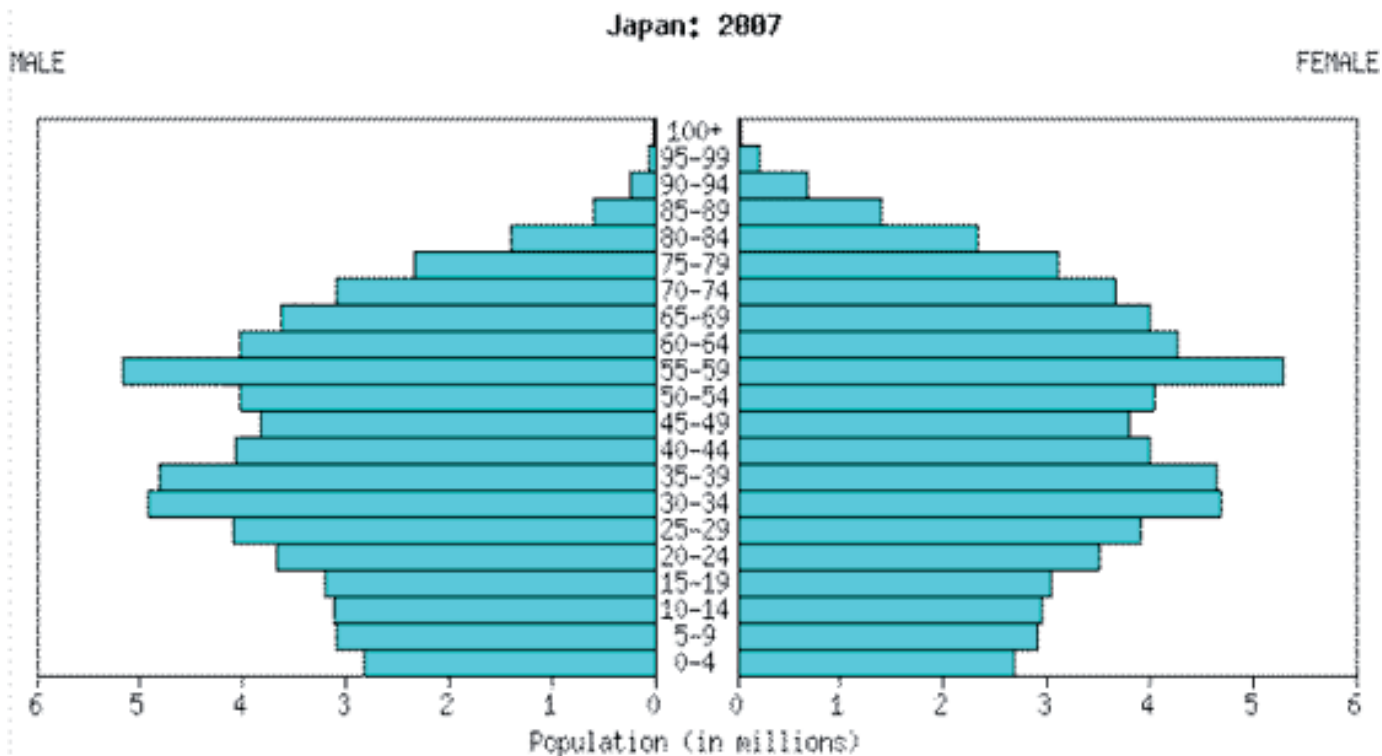


Figure 2 Japanese population pyramid: 2007



Source: U.S. Census Bureau, International Data Base.

