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Editorial

Dr Abdul Abyad

Chief Editor



This is the second issue this year with a number of papers covering various topics from care placement to urinary incontinence. A paper from India looked at Living Arrangement and Treatment Seeking Behavior of the Elderly from different economic segments. A total of 34,831 elderly of age 60 years or above were analyzed. Monthly Per-capita Consumption Expenditure is used as economic indicator of household. The authors noted that treatment rate is significantly higher among elderly living with spouse than living alone in low MPCE households. Elderly of age 65 years or more are less likely to receive treatment than those in the age group 60-64 years. Elderly women are neglected in terms of treatment seeking than their male counterparts in low MPCE households.

A prospective study of 500 women from Jordan assessed the current incidence of urinary incontinence amongst women attending a gynecological clinic, and also to evaluate the epidemiological factors in those women. The authors found that the current incidence of urinary incontinence amongst women attending our hospital was 36.4%, and the highest percentages were found to have stress incontinence 73.6%. Increasing age and parity, menopause state, and vaginal deliveries were common among women with incontinence. The authors concluded that urinary incontinence is an important and common health condition, and a growing problem in women.

A paper from Turkey looked at Chronic obstructive pulmonary disease and metabolic syndrome. The study included 189 cases (69 patients with COPD). Mean age of COPD cases was 56.1 years, and there was a male predominance. Although body mass index (BMI) was higher in the COPD cases, the difference was nonsignificant, probably due to the small sample size. Prevalence of type 2 diabetes mellitus (DM) was

higher and high density lipoprotein cholesterol was lower in the COPD cases. The authors concluded that although the BMI and FPG values and prevalences of type 2 DM and CHD were higher in the COPD cases, the differences were nonsignificant in most, probably due to the small sample size. So COPD may be one of the terminal end points of metabolic syndrome that should be searched with larger studies.

A paper from Jordan looked at Periarticular Bupivacaine Injection in Knee Arthroplasty. A total of sixty two patients undergoing total knee arthroplasty were randomized either to receive (1) a perioperative infiltration mixture, consisting of local anesthetic, and Parenteral narcotics or (2) parenteral narcotics only. The patients who received the perioperative infiltration mixture used significantly less parenteral narcotic analgesia over the first twenty-four hours after the surgery. The authors concluded that periarticular injection of a local anesthetic offered improved pain control and significantly reduce the requirements for parenteral narcotic analgesia with minimal side effects to patients undergoing total knee arthroplasty.

The incidence and risk factors of urinary incontinence

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ABSTRACT

Objectives: To assess the current incidence of urinary incontinence amongst women attending the gynecological clinic, and also to evaluate the epidemiological factors in those women.

Methods: This is a prospective study of 500 women attending gynecological outpatients' clinic during a period of two years between July 2007 and August 2009 at Prince Rashid Bin-Al-Hassan Military Hospital, Irbid, Jordan.

Results: The current incidence of urinary incontinence amongst women attending our hospital was 36.4%, and the highest percentages were found to have stress incontinence 73.6%. Increasing age and parity, menopause state, and vaginal deliveries were common among women having incontinence. The commonest symptom of urinary incontinence was urinary leakage on coughing and sneezing, 76.4%.

Conclusion: Urinary incontinence is an important and common health condition, and a growing problem in women. Leading questions regarding incontinence should be part of routine history taking in gynecology, since many of them may not come forward with the problem of incontinence.

Key words: urinary incontinence, incidence, epidemiological factors.

Introduction

Urinary incontinence is defined as the complaint of any involuntary loss of urine. Both continence and maturation depend upon a lower urinary tract, consisting of the bladder and urethra, which is structurally and functionally normal (1). Urinary incontinence is a distressing condition that, although rarely life threatening, severely affects all aspects of a woman's quality of life. Through ignorance, embarrassment and a belief that loss of bladder control is a normal result of child birth and ageing, many women suffer for years before seeking help (2).

The prevalence of urinary incontinence in a community is as high as 30-40%, but despite that up to 70% of women do not seek help for incontinence, primarily because of social embarrassment or because they are unaware that help is available (3). Because of increasing awareness by both patients and physicians, the societal concept that incontinence is part of the "normal" aging process is no longer acceptable (4). Incontinence may be genuine stress incontinence (the bladder pressure exceeds the urethral pressure because the urethral sphincter mechanism is weak) in the majority of cases, detrusor overactivity (the detrusor pressure is excessively high) or mixed incontinence (5).

So in this study we try to assess, the current incidence of urinary incontinence amongst women attending the gynecological outpatient clinic in this hospital in the north of Jordan. And also we evaluate the epidemiological factors in those women. All women were evaluated for urinary incontinence based on a questionnaire.

Methods

This is a prospective study of 500 women attending the gynecological outpatients' clinic. This study was conducted between the 1st of July 2007 and the end of August 2009 at Prince Rashid Bin-Al-Hassan Military hospital in the north of Jordan. The inclusion criteria included non pregnant women, any married women who came or who did not come for urinary complaints. They were subjected to a questionnaire of 20 questions mainly related to urinary incontinence.

Maternal demographics, obstetrical events, delivery outcome, previous medical and surgical history and menopausal status were evaluated in the questionnaire. Also urinary symptoms like frequency, diurnal as well as nocturnal voids, and associated symptoms like burning micturition, were documented for each patient.

Clinical examination of the patients was performed for all women who participated in the questionnaire, especially looking for any uterine prolapse, anal sphincter tone and vaginal atrophy.

For all women who were found to have incontinence, a cough stress test was performed, urine was sent for analysis and culture, and all those women were sent to the urological clinic, and were subjected to urodynamic studies for objective assessment of incontinence.

Results

During the study period (2007-2009) and on the basis of the questionnaire results, 318 of the 500 women were found to be continent (63.6%) and 182 (36.4%) found to be incontinent. So the current incidence of urinary incontinence amongst women attending the gynecological outpatient clinic in our hospital was 36.4%.

All incontinent women were sent to the urological clinic, and were subjected to urodynamic studies for objective assessment of incontinence. Of 182 incontinent women, the highest percentages were found to have stress incontinence (73.6% 134/182), 17% (31/182) had urge incontinence, and 9.3% (17/182) had mixed incontinence as shown in Table 1.

Maternal history of incontinent women: The average maternal age was 43.4 years (range, 20-71), and the mean parity was 4.12. The average weight for those women was 52.3 (kg). Also 28% (51/182) were post menopause as shown in Table 2.

Obstetric history: As shown in Table 3 (page 6), only 15.4% (28/182) had cesarean delivery, while 4.9% (9/182) had instrumental vaginal delivery and 79.7% (145/182) had normal vaginal delivery.

Urinary symptoms: In our study of 182 incontinent women, one hundred and thirty nine (76.4%) had stress incontinence with urinary leakage on coughing and sneezing, while 33 women (18.1%) had leakage of urine with urgency as seen on Table 4 (page 6).

Discussion

Urinary incontinence as defined by the International Continence Society (ICS) is the complaint of any involuntary leakage of urine. Incontinence can be a sign, a symptom (patient complaint), or a condition diagnosed by an examiner. Urinary incontinence represents a very important problem medically, psychologically, socially, economically, and hygienically (6). People who suffer from urinary incontinence are more likely to have urinary infections, dermatitis, and suffer from falls. Moreover, it may increase isolation, despondency, and depression. Although it is difficult to state its prevalence, all authors agree that it is related to age and gender (7).

The reported incidence of urinary incontinence varies widely, ranging from 8-41% in women over 65 years (8). In our study the overall incidence of urinary incontinence was 36.4%(182/500) which is similar to the 31% incidence found by Mason et al(9), but Brown et al(10) found a much higher incidence (55%). In our study the commonest type of urinary incontinence was stress incontinence which was 26.8% (134/500) compared to 18.9% reported by Zhu et al (11).

Regarding age and parity, in our study mean age was 43.4 years and mean parity 4.12 whereas in a study conducted by Onur et al (12), mean age and mean parity were 44.57 and 4.0 respectively. Also about 28% (51/182) of our patients were post menopause, whereas Fultz et al (13) report a 30-40% incidence. In our study, only 15.4% had cesarean delivery, similar to a study by Eftekhari et al(14) which found that the

Type of Incontinence	No.	%
Stress incontinence	134	73.6
Urge incontinence	31	17
Mixed incontinence	17	9.3

Table 1: Type of Incontinence N=182 women

Characteristics	Range	Mean
Age (years)	20-71	43.4
Parity	2-10	4.12
Weight (kg)	51-89	52.3
Menopause	51/182	28%

Table 2: Baseline characteristics (n=182)

Mode of delivery	No.	%
Normal vaginal deliveries	145	79.7
Cesarean section	28	15.4
Instrumental deliveries (Forceps, Vacuum)	9	4.9

*Table 3:
Obstetric history (n=182)*

Urinary Symptoms	No.	%
Leakage of urine with cough and sneeze	139	76.4
Leakage of urine with urgency	33	18.1
Urgency	25	13.7
Burning micturition	30	16.5
Nocturnal frequency	16	8.8

*Table 4:
Urinary symptoms*

prevalence rate was 10.7% after elective cesarean section. In contrast 79.7% had normal vaginal delivery in our study compared to 15.9% after vaginal delivery reported by Eftekhar et al.

Also in our study we found that the most common symptom of incontinence was urinary leakage on coughing and sneezing (76.4%) as seen by many studies(15,16).

Conclusion

Urinary incontinence is common, bothersome, affects many women globally and is a growing problem in women. Also urinary incontinence amongst women is often an undiagnosed problem leading to significant suffering. A simple questionnaire can help to detect this problem of incontinence subjectively.

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Periarticular Bupivacaine Injection in Knee Arthroplasty

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ABSTRACT

Background: Different modes of analgesia have been reported for patients undergoing total knee arthroplasty. Postoperative analgesia with the use of parenteral opioids or epidural analgesia can be associated with side effects. Pain relief is important for postoperative knee rehabilitation, and it may influence the overall outcome, improve patient satisfaction, and may reduce the hospital stay. We investigated the analgesic effect of locally injected drugs around a total knee prosthesis.

Methods: Sixty-two patients undergoing total knee arthroplasty were randomized either to receive either (1) a perioperative infiltration mixture, consisting of local anesthetic, and Parenteral narcotics or (2) parenteral narcotics only. Pain control, narcotic consumption, medication side effects, and postoperative rehabilitation were monitored.

Results: The patients who had received the perioperative infiltration mixture used significantly less parenteral narcotic analgesia over the first twenty-four hours after the surgery. They had higher visual analog scores for patient satisfaction. Neither complications nor side effects related to the infiltration of the local anesthetic were observed.

Conclusions: Periarticular injection of a local anesthetic offered improved pain control and significantly reduced the requirements for parenteral narcotic analgesia with minimal side effects in patients undergoing total knee arthroplasty.

Introduction

Postoperative pain management is an important concern in the care of patients undergoing total knee arthroplasty. Adequate pain control has been shown to increase mobility^(1,3), potentially decreasing the risk of deep venous thrombosis. Patient satisfaction is also increased with control of postoperative pain, promoting quicker recovery⁽⁵⁾.

Many modes of preoperative, perioperative, and postoperative analgesia have been reported. The use of narcotic drugs deals with postoperative pain efficiently but is often associated

with side effects, including nausea and vomiting, respiratory depression, and urinary retention.

Epidural analgesia is of proven benefit but is associated with side effects such as severe headache, neurogenic bladder, hypotension and a risk of spinal infection^(4,5).

Epidural analgesia is of proven benefit but is associated with side effects such as severe headache, neurogenic bladder, hypotension and a risk of spinal infection^(4,5).

Intraarticular injections of different analgesics following knee surgery with minimal systemic side effects, is an attractive option. They have been shown to reduce requirements for postoperative analgesia(1-3).

We performed a prospective, blinded, randomized study to investigate the use of a periarticular injection of a long-acting local anesthetic (Bupivacaine), to provide analgesia following total knee arthroplasty.

Materials and Methods

Sixty-two patients undergoing total knee arthroplasty were randomized. Thirty-two patients received an intraoperative periarticular injection of analgesic drugs, and thirty patients did not receive an intraoperative injection.

Exclusion criteria were: spinal or epidural anesthesia, simultaneous bilateral total knee arthroplasty, regular narcotic use, major psychological problems, renal insufficiency, abnormal liver enzymes, a history of stroke or a major neurological deficit.

Patients were randomly assigned to the two treatment groups: (1) Patients receiving perioperative infiltration mixture, consisting principally of local anesthetic, and parenteral narcotics or (2) Patients receiving parenteral narcotics only.

Surgery

A standard medial parapatellar arthrotomy was used, and posterior stabilized components were fixed with cement. A vacuum drain was inserted before joint closure and was removed after 48 hours. All patients received a COX-2 inhibitor Mobic, 7.5 mg twice a day) and paracetamol (500 mg four times a day) regularly postoperatively. Low-molecular-weight heparin (Clexane), 40 mg subcutaneously daily for 14 days) was administered beginning on the night before surgery. All operations were performed with use of a tourniquet, which was inflated during draping and was released after skin closure.

Patients were allowed to become mobile as tolerated beginning on the day of the surgery. Daily isometric, passive, and active exercises were supervised by a senior physiotherapist.

The local infiltration mixture was prepared with forty milliliters of 0.25 per cent bupivacaine; after the prosthesis was implanted, two 20 -mL syringes, with a 22-gauge needle were used to infiltrate the deep tissues (collateral ligaments, posterior aspect of the capsule, quadriceps tendon, patellar tendon) with the mixture. A 16-gauge catheter that passed through the vastus lateralis muscle was inserted into the joint (for intra-articular injection on the day after the surgery). After wound closure, the rest of the bupivacaine was injected into the joint through the catheter.

On the first postoperative day (between sixteen and twenty-four hours after the surgery) 20 ml of bupivacaine 0.25% was injected into the knee through the 16-gauge catheter, and then the catheter was removed.

The consumption of narcotics was measured at different time-points during the twenty-four-hour postoperative period and

the patient's overall analgesic consumption was measured to allow for comparison of the two treatment groups.

Patients used a visual analog scale to assess pain, as well as their satisfaction two to three weeks prior to the surgery, on the day of the surgery, in the post-anesthetic-care unit, during the inpatient stay, and finally at the six-week follow-up examination. The visual analog scales for pain and satisfaction ranged from 0 mm (indicating no pain) to 100 mm (indicating extreme pain) in 10-mm increments. Specific note was made of any signs of cardiac or central nervous system toxicity or wound complications. All patients had an ultrasound study of the lower limb to screen for deep vein thrombosis at five days after the surgery.

Results

Patients who had received the drug infiltration used significantly less analgesia at four hours and at twelve hours and had a significantly lower overall requirement for analgesia over the first twenty-four hours after surgery compared with the patients who had received no infiltration (Figure 1 - next page).

The group that had had the infiltration had significantly greater mean visual analog scores for patient satisfaction in the post-anesthetic-care unit ($p = 0.016$) and four hours postoperatively ($p = 0.013$) (Figure 2 - next page).

At six weeks, no significant difference in the range of motion could be detected between the two groups. In addition, with the numbers available, there was no significant difference in the average hospital stay or the rate of wound complications between the two groups. One patient who had received the infiltration had a deep vein thrombosis postoperatively.

No cardiac or central nervous system toxicity was observed (Table 1 - page 11).

Discussion

Many protocols for post-operative pain control after total knee arthroplasty have been evaluated; none is optimal and narcotics still play a major role(2-6). Although effective and reliable, narcotics are associated with side effects such as addiction, constipation, and respiratory depression.

The addition of continuous epidural infiltration has been demonstrated to be more effective than parenteral analgesia alone(11). However, epidural infiltration can be associated with side effects (nausea, pruritus, hypotension, urinary retention, poor muscle control, and delayed mobilization)(6,11,12) moreover, the more serious complications such as epidural hematoma associated with VTE prophylaxis,(10,11).

The idea of administering analgesia directly to the operative site with minimal systemic side effects is an attractive option(3). It causes peripheral sensitization by reducing the threshold for afferent nociceptive neurons, and it causes central sensitization by increasing the excitability of spinal neurons. Together these changes contribute to postoperative pain hypersensitivity, which increases the response to noxious stimuli and decreases the pain threshold at the site of the injured tissue as well as the surrounding uninjured tissue(14).

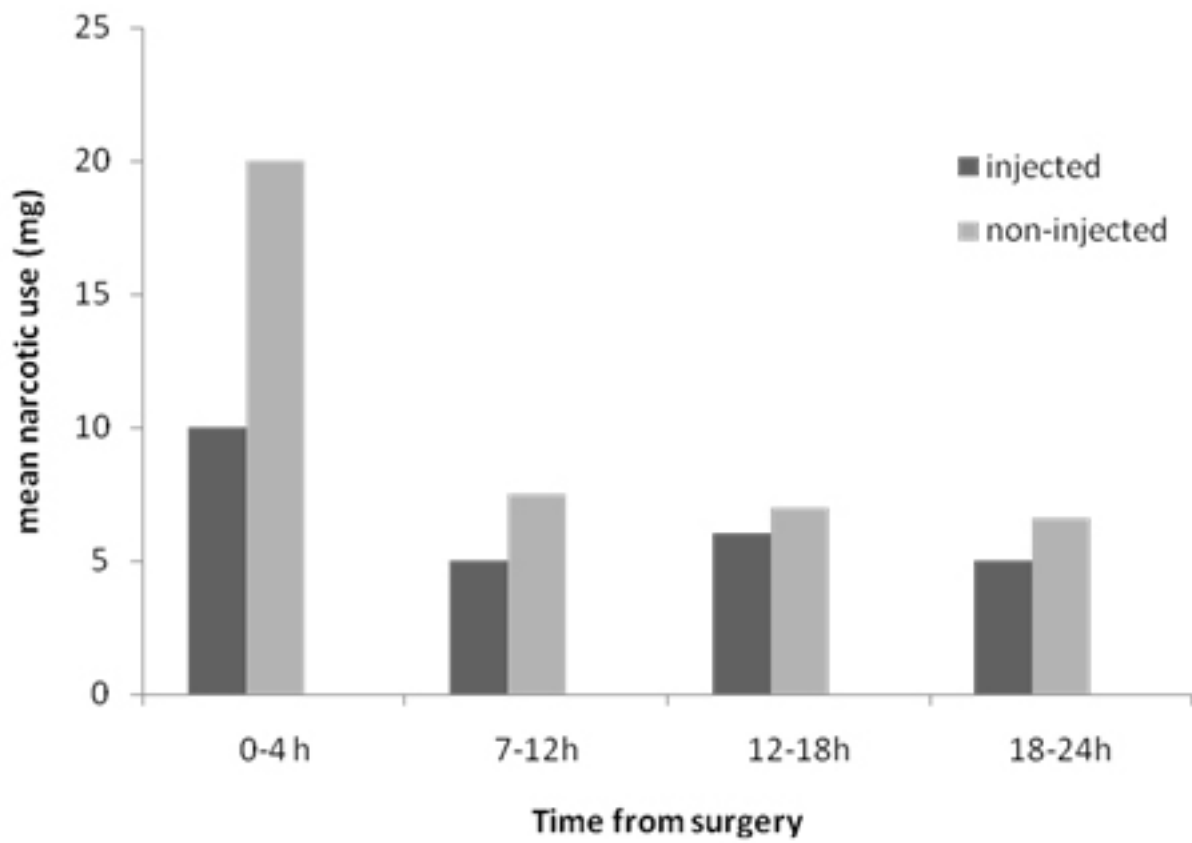


Figure 1: Twenty-four-hour consumption of narcotics in milligrams

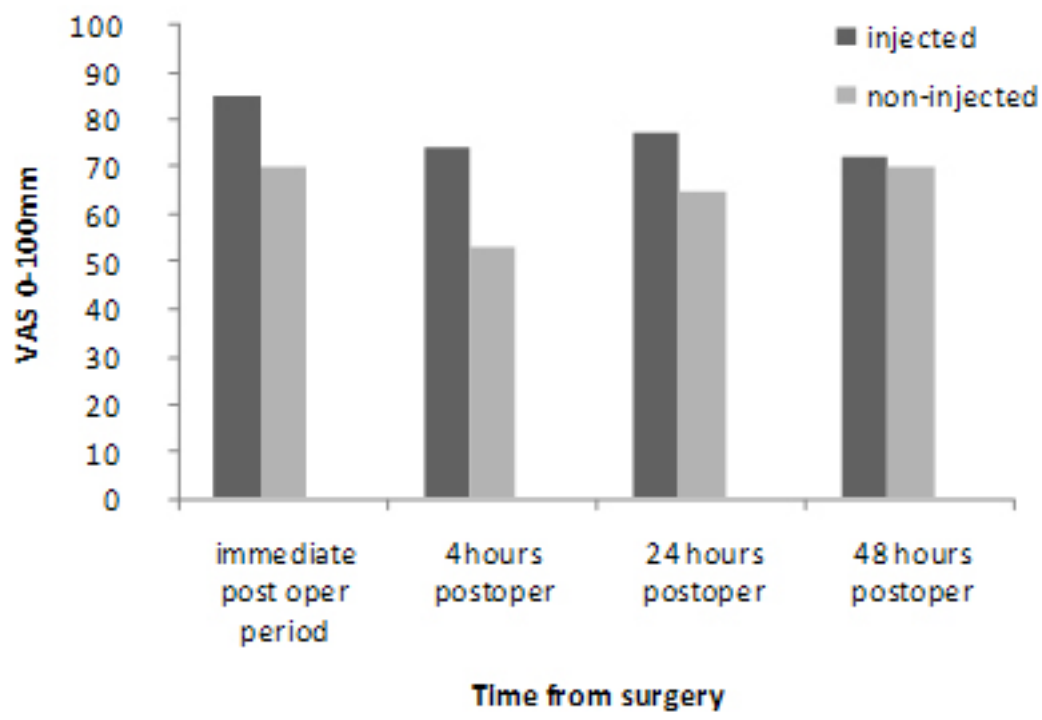


Figure 2: Summary of visual analog scores (VAS) for patient satisfaction

	Group 1 (Infiltration)	Group 2 (No Infiltration)
Number of patients	32 patients	30 patients
Average age (range) (year)	64 (55-74)	68 (55-76)
Gender	25 F, 7 M	22F, 8 M
Average hospital stay (day)	5	6
Wound complications (No.)	2	2
Deep vein thrombosis (at day 7) (No.)	0	0

Table 1: Demographic Data for Patients in the Study

In total joint arthroplasty, preemptive and multimodal approaches with use of Periarticular Bupivacaine Injection, and femoral nerve catheters have been shown to decrease narcotic use(14).

The pharmacokinetics profile of Bupivacaine in epidural infiltration has shown up to ten hours of efficacy(15). The addition of an intra-articular bolus injection on the first postoperative day most likely prolonged pain control and delayed pain rebound in our study. The intra-articular catheter could have been used for additional injections, but it carried the risk of contaminating the joint(14,15).

The primary objective of our study was to evaluate the safety and efficacy of a new perioperative intra-articular analgesia protocol. Bupivacaine is a long-acting analgesic with efficacy similar to that of Ropivacaine. We noted a significant reduction in the postoperative pain level ($p = 0.01$) during the first forty-eight hours after the surgery and a significant reduction of narcotics consumption that lasted for forty-eight hours ($p = 0.0003$). Many factors may explain the success of our protocol in comparison with that of the protocols used in other studies. Periarticular tissues were infiltrated under direct vision intraoperatively, providing a direct block of nerves that were injured or stretched at the time of the surgery. We also believe that entrapment of local anesthetics in the soft tissues improved the efficacy of the block and reduced the amount of medication discharged through the drain or the skin incision. Furthermore, injections of Bupivacaine were given both during the surgery and on the first postoperative day and the anesthetic doses were much higher than those used in other studies, in which the patients received single injections ranging from 50 to 200 mg of bupivacaine. The large dose of local anesthetic that we used appears to be safe, as no side effects were observed in our study group.

The advantages of this protocol include ease of use, low cost, and better operating-room efficiency. Operating time was not increased by the infiltration step, and this is a major advantage over peripheral nerve blocks, which may be time-consuming if they are performed in addition to spinal or general anesthesia in the same theater as the surgical procedure(16).

In conclusion, intraoperative periarticular injection of multimodal drugs can significantly reduce requirements for patient-controlled analgesia and improve patient satisfaction, with no apparent risks, following total knee arthroplasty.

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Living Arrangements and Treatment Seeking Behavior of the Elderly from different economic segments in India

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ABSTRACT

Elderly hood is the final stage in one's life cycle and is characterized by various chronic and multiple morbidities. Previous studies have focused on morbidity and treatment seeking behavior among the elderly but there is a dearth of studies which look into economic condition and living arrangement simultaneously to explain treatment seeking behavior among the elderly. The present study brings insights on difference in treatment seeking of elderly from similar economic conditions but different living arrangements. NSS 60th round (25.0 sub-round) data on 34831 elderly of age 60 years or above has been analyzed. Monthly Per-capita Consumption Expenditure is used as economic indicator of household. MPCE and place of residence have direct bearing on treatment seeking behavior of the elderly. But, with the similar level of MPCE, elderly living with spouse and without spouse but with children receive treatment higher than those living alone or in old age homes or with other relatives and non-relatives in both rural as well as urban settings. Treatment rate is significantly higher among elderly living with spouse than living alone in low MPCE households. Elderly of age 65 years or more are less likely to receive treatment than those in the age group 60-64 years. Elderly from scheduled tribe households are less likely to avail treatment than their other counterparts. Elderly women are neglected in terms of treatment seeking than their male counterparts in low MPCE households.

Keywords: Living Arrangements, Elderly, Health, Treatment seeking.

Introduction

Increasing elderly population is a growing concern in almost all the developing countries. The rate of growth of the elderly in developing countries is much higher than that of developed countries. In most of the developed countries major economic development and improvement in health infrastructure preceded population ageing transition. On the contrary, in developing countries ageing transition seems to outpace economic development and health infrastructure development. Due to insufficient support systems, ageing transition in the developing countries is characterized by very poor health and economic conditions. India's workforce comprises nearly 90 percent in the unorganized segment, with the entire farm sector falling under the informal category, while only one-fifth of the non-farm workers are found in the organized segment

(Sakthivel and Joddar, 2006). This huge bulk of workforce does not receive any pension or social support provision from the employer or from the government.

Issues related to care giving are major concerns in ageing societies. Chronological aging brings certain life cycle changes, some of which are physically imposed, while others are culturally defined or set by statutes. Among these life cycle changes are declining health status, retirement, and declining roles and status in family and society. Thus, old age often brings with it dependency and disengagement, and everywhere, including in India, people and governments are concerned about the provision of care for the growing number and proportion of the aged. Whatever be the answer of the question whether family care is a sustainable option given various demands on the

family and declining family sizes in India, family members have often been identified as the care providers of choice by individuals and governments. The fluid and complex nature of intergenerational relationships diversifies family relations and affects family support and care of aged relatives.

In India, the population under age 15 is expected to be halved from 33 percent in 2005 to 18 percent by 2050 and that of aged 65 or above is expected to triple from 5 percent in 2005 to 15 percent by 2050. The share of working age population will continue to increase till 2040 and thereafter will follow a reverse declining order. As a consequence of this age-structural transition the elderly population of India is expected to increase at an annual rate of 2.8 percent until 2050, while the child population is expected to decline at an annual growth rate of 0.4 percent (UN; 2006).

In India, living with children, spouse and other family members during old age is a common cultural practice. Usually, the younger family members take care of the economic, social, emotional and health needs of the elderly members of the family. Living with family members also facilitates older persons with social support. On the other hand, the elderly look after their grand children and help in household chores. They also relocate their life-time savings and property to their children and make themselves dependent on family members, especially on children.

Increased exposure to financial risks from ill health will continue to pose a serious risk to the immediate and future economic well-being of Indian households, whether or not they include the elderly, given that much of the health spending in India is out-of-pocket (Government of India, 2009; Krishna, 2007). Households with the elderly are, however, particularly at risk, both because of their greater likelihood of becoming ill and because they are likely to require more intensive care.

Focus and Objectives

In a country like India, where government intervention to provide Institutional care is very limited, family and relatives are the only destination for the citizens in their later ages. Very few people work in the organized sector and enjoy regular pension benefit. Again, the cash received as old age pension under the National Old Age Pension Scheme (NOAPS) is neither universal nor adequate. The inattention is rationalized on two grounds. First, family values remain strong in Indian culture and sustain the traditional institution of family care for the elderly. Although it may erode over time, there is already a well-functioning, deeply rooted informal old-age security system in Indian system. Secondly, any formal public policy response to the needs of the elderly may undermine the existing private arrangements. For example, state transfers to the elderly may crowd out existing transfers from younger family members. So, family plays a very important role to support elderly members of the households.

Previous studies have analyzed the effect of living arrangements and economic status of the household individually to explain the health seeking behaviour of the elderly. But, within a similar economic status, living arrangements can make a difference in treatment seeking behaviour among the elderly.

It is worthy to find the factors, responsible for discrimination in treatment seeking within similar economic groups but with different living arrangements.

Specific Objectives:

The specific objectives of this paper are:

- 1) To assess the inequalities in treatment seeking among the elderly from intra-economic groups but with different living arrangements.
- 2) To study the factors responsible for inter economic group discrimination in treatment seeking with different living arrangements among the elderly.

Data and Methods

Survey Organization (NSSO). It collected information on the curative aspects of the general health care system in India, utilization of health care services provided by the public and private sector and the expenditure incurred by the households for availing these services. A special section dealt with the condition and problems of aged persons (age 60 years or more). Information was collected from 34,831 elderly (17,750 males and 17,081 females) throughout India. The sample for analyses contains 22,265 elderly from rural areas and 12566 from urban areas (Table 1).

Monthly per-capita consumption expenditure (MPCE) is considered as proxy indicator of household economic status. MPCE tertile has been calculated for rural and urban areas separately. Households having MPCE ` 400.00 or less and ` 667.00 or less have been considered as low MPCE households in rural and urban areas respectively. On the other hand, high MPCE households are those households which have MPCE more than ` 583.00 for rural areas and ` 1071.00 for urban areas.

The living arrangements among the elderly have been classified into four categories according to the expected level of availability of assistance - living alone and not as an inmate of an old age home, living with spouse, living without spouse but with children, and others. Other includes those living alone as an inmate of an old age home, living with other relatives and non-relatives. Treatment rate is defined as per opposite page.

Bi-variate analysis: Prevalence of any ailment and treatment seeking among elderly by economic status

Among all the elderly included in the sample, 37 percent from low MPCE households, 39 percent from medium MPCE households and 44 percent from high MPCE households reported any ailment during the date of surveys. Treatment rate of the elderly from low MPCE households was 64 percent, 76 percent from medium and 83 percent from high MPCE households (Table 2). On the whole, treatment rate among the elderly increased with economic conditions of the households.

Instead of dealing with differentials in treatment seeking among elderly from households with different economic status, the present paper focuses on the treatment seeking behaviour of the elderly with different living arrangements but within the same MPCE tertile. This presents an opportunity to find out whether with similar MPCE level, living arrangement makes any difference in treatment seeking among the elderly.

	MPCE Tertile	Percentage	N
Any Ailment	Low	37.3	11901
	Medium	39.1	11247
	High	44.2	11554
	Total	40.2	34702
Treatment Rate	Low	63.7	4393
	Medium	75.6	4348
	High	83.3	5075
	Total	74.6	13816

Table 1: Prevalence of any ailment and treatment rate among elderly from different MPCE tertile in India, 2004

MPCE	Living Arrangement	Treatment rate	N
Low	Alone and not as an inmate of old age home	40.3	72
	With spouse	62.2	1514
	Without spouse but with children	56.2	1009
	Others	45.7	151
	Over all	58.5*	2746
Medium	Alone and not as an inmate of old age home	62.7	83
	With spouse	73.9	1485
	Without spouse but with children	67.9	944
	Others	57.7	130
	Over all	70.6*	2642
High	Alone and not as an inmate of old age home	68.5	181
	With spouse	80.7	1738
	Without spouse but with children	77.9	1018
	Others	77.6	134
	Over all	78.9*	3071

* significant at 5 percent level

Table 2: Treatment rate among rural elderly by living arrangements within similar MPCE category, India, 2004

Treatment rate is defined as, Treatment Rate = $\frac{\text{(Number of ill persons who sought treatment from a specific category)}}{\text{(Total number of persons ill from that particular category)}} \times 100$

MPCE	Living Arrangement	Treatment rate	N
Low	Alone and not as an inmate of old age home	50.0	48
	With spouse	74.3	848
	Without spouse but with children	71.4	639
	Others	72.3	112
	Over all	72.3*	1647
Medium	Alone and not as an inmate of old age home	72.3	65
	With spouse	86.1	915
	Without spouse but with children	80.4	639
	Others	80.4	87
	Over all	83.2*	1706
High	Alone and not as an inmate of old age home	81.9	72
	With spouse	92.9	1206
	Without spouse but with children	86.5	630
	Others	86.5	96
	Over all	90.2*	2004

* significant at 5 percent level

Table 3: Treatment rate among urban elderly by living arrangements within similar MPCE category, India, 2004

In rural as well as urban areas treatment seeking is higher among high MPCE households (79 percent in rural and 90 percent in urban) and lower among the low MPCE households (59 percent in rural and 72 percent in urban). Two-fifths of the elderly from rural areas and half of the elderly from urban areas who live alone and belonging to low MPCE households do not receive treatment. Irrespective of economic status of the household, treatment seeking is highest among the elderly who reside with spouse and with children in the absence of spouse and lowest among those who live alone or with other relatives or non-relatives.

Multivariate Analysis: Factors affecting treatment seeking among elderly by household MPCE tertile

Low MPCE Households

Living arrangements play an important role in explaining the treatment seeking behaviour of the elderly from low MPCE households. Elderly, living with spouse (spouse only or spouse with children) are 69 percent more likely to receive treatment than those living alone. Again, those who live with children only are 29 percent less likely to avail treatment. In low MPCE households, living arrangement has a significant positive effect on treatment seeking among the elderly. Elderly women are 14 percent less likely to avail treatment than their male counterparts. In low as well as high MPCE households, religion shows an impact on treatment seeking but does not show effect for medium MPCE households. Age, place of residence,

religion and social group (i.e. caste) are significant predictors of the treatment seeking behaviour among the elderly from lower MPCE households. Elderly who are economically fully dependent on others are 21 percent less likely to receive treatment than the independent elderly.

Medium MPCE households

Elderly living without spouse but with children and those living with others are less likely to avail treatment than those who live alone in medium MPCE households. Age, place of residence and caste has a statistically significant impact on treatment seeking among the elderly from this economic stratum. Elderly from more advanced age groups are less likely to receive treatment than those from 60-64 years age group. Urban elderly from medium MPCE households are two times more likely to avail treatment than their rural counterpart. Sex, religion and economic dependency are not significant contributors in explaining the treatment seeking behavior in these households.

High MPCE households

Elderly, living without spouse but with children are 28 percent less likely to get treatment than those living alone. Age, place of residence, religion and caste are significant factors explaining treatment seeking behaviour among elderly in high MPCE households. In high MPCE households, Muslim elderly are about two times more likely to avail treatment than those who belong to the Hindu religion. Gender and economic

Predictors	Odds ratio of treatment seeking		
	Model 1 (N=4391)	Model 2 (N=4346)	Model 3 (N=5072)
Elderly from low MPCE household and			
<i>Living alone and not as an inmate of old age home</i> ®			
With spouse	1.69*		
Without spouse but with children	0.71*		
Others	0.80		
Elderly from medium MPCE household and			
<i>Alone and not as an inmate of old age home</i> ®			
With spouse		1.00	
Without spouse but with children		0.57*	
Others		0.71*	
Elderly from high MPCE household and			
<i>Alone and not as an inmate of old age home</i> ®			
With spouse			1.42
Without spouse but with children			0.72**
Others			0.91
Age groups 60-64 years ®			
65-69 years	0.69*	0.54*	0.65*
70-74 years	0.76*	0.64*	0.59*
75-79 years	0.72*	0.61*	0.65*
80 years or above	0.86	0.65*	0.71*
Place of residence Rural ®			
Urban	1.79*	2.02*	2.14*
Sex Male ®			
Female	0.86*	0.88	1.00
Religion Hinduism ®			
Islam	1.55**	1.23	1.81*
Christianity	1.73*	1.14	1.10
Others	1.44	1.31	1.54**
Social groups Scheduled Tribe ®			
Scheduled caste	1.80*	2.36*	3.22*
OBC	1.75*	1.60*	1.56*
Others	1.51*	1.35*	1.47*
Economic Dependency Not dependent on others ®			
Partially dependent on others	1.05	1.19**	0.99
Fully dependent on others	0.79*	0.93	1.18
-2 log likelihood values	5566.98	4636.18	4316.21

* significant at 5 percent level, ** significant at 10 percent level

Table 4: Logistic regression analyses of treatment seeking among elderly from different MPCE households in India, 2004

dependency are not significant predictors of treatment seeking.

Summary

Overall treatment rate is higher in urban areas compared to rural areas among elderly from all three MPCE categories. Treatment rate is lowest among the low MPCE households and highest among high MPCE households in both rural as well as urban areas. Treatment rate is highest among those elderly who live with the spouse only or with spouse and children, followed by those who live with children only.

Utilization of health care is significantly higher among elderly living with spouse than those living alone in low MPCE households. Irrespective of economic status, treatment seeking is relatively lower among those living with children than living alone. Treatment seeking is significantly lower among elderly in older ages than those from 60-64 years age group. Likelihood of treatment seeking among elderly from scheduled tribe households is less compared to other caste groups.

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Chronic obstructive pulmonary disease and metabolic syndrome

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ABSTRACT

Background: We tried to understand presence of any effect of excess weight on the respiratory system.

Methods: Patients with devastating illnesses and above the age of 70 years were excluded to avoid their possible effects on weight. Chronic obstructive pulmonary disease (COPD) patients and age- and sex-matched controls were compared.

Results: The study included 189 cases (69 patients with COPD). Mean age of COPD cases was 56.1 years, and there was a male predominance (68.1%) among them, probably due to the higher prevalence of smoking in males. Similarly, there was a higher prevalence of smoking in COPD cases ($p < 0.001$). Although Body Mass Index (BMI) was higher in the COPD cases, the difference was nonsignificant, probably due to the small sample size. Prevalence of type 2 diabetes mellitus (DM) was higher and high density lipoprotein cholesterol was lower in the COPD cases ($p < 0.05$ for both). Fasting plasma glucose (FPG) and prevalence of coronary heart disease (CHD) were higher and low density lipoprotein cholesterol, systolic and diastolic blood pressures, and prevalences of hypertension and white coat hypertension were lower in the COPD cases, but the differences were nonsignificant probably due to the small sample size again.

Conclusion: Although the BMI and FPG values and prevalences of type 2 DM and CHD were higher in the COPD cases, the differences were nonsignificant in most, probably due to the small sample size. So COPD may be one of the terminal end points of metabolic syndrome that should be searched with larger studies.

Key words: Chronic obstructive pulmonary disease, metabolic syndrome

Introduction

An association between certain metabolic parameters and obesity, hypertension (HT), type 2 diabetes mellitus (DM), peripheral artery disease (PAD), coronary heart disease (CHD), stroke, and eventually an increased all-cause mortality has been known for many years, and is defined as the metabolic syndrome (1,2). The syndrome is characterized by a group of metabolic risk factors including overweight, dyslipidemia, elevated blood pressure (BP), insulin resistance, and a prothrombotic and proinflammatory state instead of being a final disease, since it can be reversed completely with appropriate nonpharmaceutical approaches including lifestyle changes, diet, and exercise (3,4). So it actually contains the reversible risk factors for development of terminal diseases which decrease quality and duration of life, such as obesity, HT, DM, CHD, PAD, and stroke. The syndrome has become increasingly common in developed countries. For example, it is estimated that 50 million Americans have it (5). On the other hand, chronic obstructive pulmonary disease (COPD) is also frequent and a continuously increasing cause of morbidity and mortality in the world (6). It is a disease characterized by chronic bronchitis and/or emphysema and airflow obstruction that is generally progressive. It may also be accompanied by airway hyperreactivity, and may be partially reversible. It is generally accepted that COPD is not solely a pulmonary disease but also causes systemic consequences (7). Its prevalence and mortality rates increase with age (8). Additionally, male sex, lower educational level, exposure to tobacco smoke, coal and/or biomass smoke, a family history of respiratory disease, and recurrent childhood cough are the other risk factors of COPD (8). We tried to understand presence of any effect of excess weight on the respiratory system by means of the excessive adipose tissue functioning as an endocrine organ and causing a systemic inflammation, in the present study.

Material and Methods

The study was performed in the Internal Medicine Polyclinic of the Mustafa Kemal University between March 2007 and February 2011. We took patients applying for any complaint < 70 years of age to avoid debility induced weight loss in elders. Their medical history, including smoking habit and already used medications was learnt, and a routine check up procedure including fasting plasma glucose (FPG), low density lipoprotein cholesterol (LDL-C), high density lipoprotein cholesterol (HDL-C), triglyceride (TG), and an electrocardiography was performed. Current daily smokers for at least one pack-year and cases with a history of at least five pack-years smoked were accepted as smokers. Cigar or pipe smokers were excluded. Patients with devastating illnesses including type 1 DM, malignancy, acute or chronic renal failure, chronic liver disease, hyper- or hypothyroidism, or heart failure were excluded to avoid their possible effects on weight (9). Body mass index (BMI) of each case was calculated by the measurements of the same physician instead of verbal expressions. Weight in kilograms is divided by height in meters squared (10). Office blood pressure (OBP) was checked after a 5-minute rest in a seated position with the mercury sphygmomanometer on three visits (ERKA, Germany), and no smoking was permitted during the previous 2 hours. A 10-day twice daily measurement of blood pressure at home (HBP) was obtained in all cases, even in normotensives, in the office due to the risk of masked

HT after a 10-minute education about proper BP measurement techniques (11). A 24-hour ambulatory blood pressure monitoring was not required due to its equal effectiveness with HBP measurements (12). Eventually, HT is defined as a BP of 135/85 mmHg or greater on HBP measurements (11). WCH is defined as an OBP of 140/90 mmHg or greater but mean HBP of <135/85 mmHg (11), and masked HT as an OBP of <140/90 mmHg but mean HBP of 135/85 mmHg or greater (11). Cases with an overnight FPG level of 126 mg/dL or greater on two occasions or already taking antidiabetic medications were defined as diabetics (13). An oral glucose tolerance test with 75-gram glucose was performed in cases with a FPG level between 100 and 125 mg/dL, and diagnosis of cases with a 2-hour plasma glucose level of 200 mg/dL or higher is DM (13). A stress electrocardiography was performed in suspected cases, and a coronary angiography was obtained only for the stress electrocardiography positive cases. COPD was diagnosed via spirometric pulmonary function tests in suspected cases. The criterion for diagnosis is post-bronchodilator forced expiratory volume in 1 second/forced vital capacity of less than 70%. Eventually, the COPD patients and age- and sex-matched control cases were compared according to the prevalence of smoking, mean pack-years, BMI, FPG, systolic and diastolic BPs, LDL-C, HDL-C, TG, and prevalences of WCH, HT, DM, and CHD. Mann-Whitney U test, Independent-Samples t test, and comparison of proportions were used as the methods of statistical analyses.

Results

The study included 189 cases (69 patients with COPD), totally. The mean age of COPD cases was 56.1 years, and there was a male predominance (68.1%) among them, probably due to the higher prevalence of smoking in males (14). Similarly, there was a significantly higher prevalence of smoking in the COPD cases (60.8% vs 29.1%, $p < 0.001$). Characteristic features of the study cases are summarized in Table 1. Although the mean BMI was higher in the COPD cases, the difference was nonsignificant (29.1 vs 28.5 kg/m², $p > 0.05$). Additionally, the prevalence of type 2 DM was significantly higher in the COPD cases (24.6% vs 15.0%, $p < 0.05$). Similarly, the mean FPG and prevalence of CHD were higher in the COPD cases, but the differences were nonsignificant probably due to the small number of patients ($p > 0.05$ for both). On the other hand, the mean HDL-C was lower in the patients, significantly (39.7 vs 48.0 mg/dL, $p < 0.05$). Similarly, the mean LDL-C, systolic and diastolic BPs, and prevalences of WCH and HT were lower in the patients, but the differences were nonsignificant probably due to the small number of patients again ($p > 0.05$ for all).

Discussion

Metabolic syndrome is a collection of metabolic risk factors for many terminal diseases. Although there is not any universally accepted definition for the syndrome, it basically includes obesity (increased body weight, BMI, or waist circumference), increased plasma glucose and insulin levels, low HDL-C, high TG, and high BP values (15). But the already used definitions as a BP of 135/85 or 140/90 mmHg or above and a FPG of 100 or 110 mg/dL or above also include patients with DM and HT. But actually the syndrome is a collection of risk factors instead of the final diseases, and it is a reversible condition with appropriate nonpharmaceutical approaches. Whereas the

Variables	COPD* cases	Control cases	p-value
Number	69	120	
Female ratio	31.8% (22)	31.6% (38)	ns†
Mean age (year)	56.1 ± 7.9 (37-70)	55.9 ± 9.0 (37-70)	ns
<u>Prevalence of smoking</u>	<u>60.8% (42)</u>	<u>29.1% (35)</u>	<u><0.001</u>
Mean pack-years	38.6 ± 20.6 (10-100)	29.8 ± 19.8 (5-120)	ns
Mean BMI‡ (kg/m ²)	29.1 ± 5.7 (14.8-43.8)	28.5 ± 4.7 (20.5-48.6)	ns
Mean FPG§ (mg/dL)	121.7 ± 44.5 (71-288)	115.4 ± 41.8 (78-302)	ns
Mean systolic BP (mmHg)	134.0 ± 26.2 (90-200)	139.4 ± 26.7 (80-220)	ns
Mean diastolic BP (mmHg)	89.4 ± 16.4 (50-130)	91.9 ± 11.3 (70-120)	ns
Mean LDL-C¶ (mg/dL)	122.8 ± 34.6 (50-225)	132.4 ± 33.7 (53-239)	ns
<u>Mean HDL-C** (mg/dL)</u>	<u>39.7 ± 14.1 (17-70)</u>	<u>48.0 ± 9.6 (30-70)</u>	<u><0.05</u>
Mean triglyceride (mg/dL)	160.7 ± 100.3 (52-418)	160.3 ± 88.1 (49-410)	ns
Prevalence of WCH***	30.4% (21)	35.8% (43)	ns
Prevalence of hypertension	15.9% (11)	22.5% (27)	ns

*Chronic obstructive pulmonary disease †Nonsignificant (p>0.05) ‡Body mass index §Fasting plasma glucose ¶Blood pressure Low density lipoprotein cholesterol **High density lipoprotein cholesterol ***White coat hypertension ****Coronary heart disease

Table 1: Characteristics of the study cases (Part 1)

Prevalence of diabetes mellitus	24.6% (17)	15.0% (18)	<0.05
Prevalence of CHD****	15.9% (11)	11.6% (14)	ns

*Chronic obstructive pulmonary disease †Nonsignificant ($p>0.05$) ‡Body mass index §Fasting plasma glucose ¶Blood pressure Low density lipoprotein cholesterol **High density lipoprotein cholesterol ***White coat hypertension ****Coronary heart disease

Table 1: Characteristics of the study cases continued (Part 2)

diseases including HT, DM, and symptomatic atherosclerosis are irreversible and final states which almost always require drug therapy to delay complications. For example in a previous study (16), prevalences of hyperbetalipoproteinemia, hypertriglyceridemia, dyslipidemia, impaired fasting glucose (IFG), impaired glucose tolerance (IGT), and WCH showed a parallel fashion to excess weight by increasing until the seventh decade of life and decreasing afterwards ($p<0.05$ nearly in all steps). On the other hand, prevalences of HT, DM, and CHD always continued to increase by aging without any decrease ($p<0.05$ nearly in all steps), indicating their irreversible properties (16). So metabolic syndrome alone is a disadvantageous but reversible status but not a final disease, and after the development of one of the terminal diseases, the term of metabolic syndrome probably loses most of its significance, since from now on the nonpharmaceutical approaches will provide little benefit to prevent development of the others, probably due to cumulative effects of the risk factors on systems for a long period of time. So the definition of metabolic syndrome should include reversible metabolic risk factors such as overweight, hyperbetalipoproteinemia, hypertriglyceridemia, dyslipidemia, IFG, IGT, and WCH but not obesity, HT, DM, CHD, PAD, and stroke like terminal diseases. According to our opinion, obesity is one of the irreversible end points of the syndrome, too, since after the development of obesity, nonpharmaceutical approaches such as lifestyle changes, diet, and exercise will provide little benefit to heal obesity and to prevent its complications. The lower HDL-C and LDL-C values and prevalence of WCH in the COPD patients may be explained by the already increased adipose tissue per taken fat in them, since the BMI was higher in the COPD group in the present study.

Although there are well defined negative effects of excess weight on physical health, its effects on the respiratory system are generally underappreciated. It still remains unclear whether excess weight causes poor pulmonary function, or if advanced COPD is the cause of weight loss and cachexia in the patients. According to some studies, overweight and obese patients have a less severe airflow obstruction compared to the normal BMI patients (17). Similarly, being overweight or obese is associated with a higher rate of survival in patients with advanced COPD (18). Additionally, lower BMI was independently associated with a higher risk of COPD among nonsmokers (8). On the other hand, the mean BMI values were similar in the symptomatic and asymptomatic cases with COPD (19), and BMI was not statistically different among patients with the

five stages of COPD in another study (7). Finally, no correlation was found between survival and BMI in another study (20). Whereas there are some studies indicating the disadvantageous effects of excess weight on pulmonary functions. For example, the risk of metabolic syndrome was higher in cases with airflow obstruction of stage II-IV according to the Global Initiative for Chronic Obstructive Lung Disease guideline (21). Similarly, the total lung capacity and functional residual capacity were significantly lower in the overweight and obese compared to normal weight patients (22). It is not surprising that weight loss and malnutrition may develop in the advanced stages of COPD (23), and cachexia may have negative effects on pulmonary functions in COPD (24). Increased resting energy expenditure and serum tumor necrosis factor-alpha levels may induce weight loss in COPD (24), and the extent of emphysema may correlate with skeletal muscle loss (25). But although muscle loss is thought to be a prognostic factor in COPD, its determinants remain unclear (25). Similarly, underweight was shown as an important modifiable risk factor for COPD-related mortality in China (26), since malnutrition may increase dyspnea and exercise intolerance in COPD patients by affecting respiratory muscle strength (27).

As a conclusion, the metabolic syndrome includes reversible metabolic risk factors such as overweight, hyperbetalipoproteinemia, hypertriglyceridemia, dyslipidemia, IFG, IGT, and WCH for the development of obesity, HT, DM, CHD, PAD, and stroke like terminal diseases. Although the BMI and FPG values and prevalences of type 2 DM and CHD were higher in the COPD patients, the differences were nonsignificant in most, probably due to the small number of patients in the present study. So COPD may be one of the terminal end points of the syndrome that should be searched with larger studies.

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Laryngeal Diseases in Elderly Patients

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ABSTRACT

Objective: To carry out a retrospective analysis of common laryngeal diseases in elderly patients.

Patients and Methods: All patients aged 60 years or older presenting with laryngeal diseases and change of voice to the ENT clinic and seen by ENT doctor were enrolled in the study.

The following data were recorded for each patient: age, sex, duration of complaint and clinical diagnosis.

Results: The total number of patients was 120 and comprised 74 men (61.7%) and 46 women (38.3%). The main presentation of these patients was change of voice with a duration ranging from 5 days to 1 year.

Ages ranged from 60 to 85 years, with mean age of 67.4; the majority of patients fell within the age group of 60-70 years (66.7%) while the least (2.5%) were 81-85 years.

The most prevalent laryngeal disease was vocal cord polyp, 41 (34.2%) which was followed by vocal cord edema which was recorded in 27 (22.5%) patients; other findings are vocal cord bowing, vocal cord atrophy, reflux laryngitis and laryngeal cancer.

Conclusion: It is important that the otolaryngologist professional and general practioners become familiar with the aging aspect of the larynx in order to be prepared for the main laryngeal complaints of elderly, thus improving their quality of life.

Key words: Elderly, laryngeal diseases, voice change.

Introduction

The demographics of our society are changing, and the elderly in near future will be making up a larger proportion of our population. With increasing life expectancy, we need our voices longer, and as we mature, so do our voices. In healthy adults, this leads to the rich tones of wisdom. However, voice problems are common in the geriatric population and should not be discounted. When the voice fails, the most common complaints are loss of vocal projection, vocal fatigue, breathiness, and the inability to be heard in noisy places. These common age-related complaints can be lessened and often reversed with frequent healthy voice use, voice therapy, and even some surgical procedures. Keep in mind, however, that most voice changes in this group are not related to age-related changes alone, but rather to specific, and usually treatable, causes. Benign and malignant tumors, as well as neurologic diseases, can affect the voice. Evaluation by an otolaryngologist is of utmost importance for older individuals with voice problems.

The ageing process and the last stage of life is satisfying for some and disappointing for others. According to the World Health Organization (WHO), elderly people are those aged over 65 years. This reference age, however, is valid for developed countries. In developing countries such as Jordan, the age that defines elderly people is 60 years. 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.

Voice disorders are particularly difficult when an elderly individual is also having significant hearing losses. Dysfunctions may be classified into those that are part of the aging process and those associated with other pathologies. Some characteristics of the aging voice include altered pitch, roughness, breathiness, weakness, and tremulousness.

The aim of this study is to carry out a retrospective analysis of common laryngeal diseases in elderly patients attending Ear, Nose and Throat clinic at King Hussein Medical Center.

Patients and Methods

This retrospective study was carried out between March 2007 and January 2011 in the Ear, Nose and Throat (ENT) Surgery Department, King Hussein medical center (Amman- Jordan).

All patients aged 60 years or older presenting with laryngeal diseases and change of voice to the ENT clinic and seen by ENT doctor were enrolled in the study.

All cases underwent complete history taking and general examination, systemic examination and examination of the nose, throat and ears with special emphasis to identify the cause of their laryngeal complaint. Patients presented with a complaint of voice change were subjected to full laryngeal evaluation.

The following data were recorded for each patient: age, sex, duration of complaint and clinical diagnosis.

Results

The total number of patients was 120 and it comprised 74 men (61.7%) and 46 women (38.3%) Table 1. The main presentation of these patients was change of voice with a duration ranging from 5 days to 1 year.

Ages ranged from 60 to 85 years, with mean age of 67.4; the majority of patients fell within the age group of 60-70 years (66.7%) while the least (2.5%) fell in 81-85 years group as shown in Table 2 - next page.

The most prevalent laryngeal disease was vocal cord polyp, 41 (34.2%) which was followed by vocal cord edema which was recorded in 27 (22.5%) patients; other findings are shown in Table 3 - next page.

Discussion

The incidence of laryngeal disorders in elderly individuals has been estimated to range from 12% to 35% [1-4]. Aging process may affect the voice, with changes in vocal pitch, pitch range, loudness, and quality being the most relevant [5-8].

Elderly individuals may also be at increased risk for voice disorders because of possible alteration of voice use patterns, the presence of vocal cord lesions (e.g., carcinoma, Reinke's edema, and paralysis), and systemic diseases that are associated with alterations in laryngeal function (e.g., stroke, respiratory disease, and arthritis) [9].

Elderly Patients may also complain of vocal fatigue and an inability to be heard over noise. Such limitations on oral communication may lead to social withdrawal, loss of employment, anxiety, and depression [10-13].

Sex of patients	Total No.	Percentage
Male	74	61.7%
Female	46	38.3%
Total	120	100%

*Table 1:
Distribution of patients with respect to sex
(No. 120)*

Age of presentation	Total No.	Percentage
60-65 years	42	35%
66-70 years	38	31.7%
71-75 years	23	19.2%
76-80 years	14	11.7%
81-85 years	3	2.5%
Total	120	100%

Table 2: Distribution of patients with respect to age (No. 120)

Clinical Diagnosis	Total No.	Percentage
vocal cord polyp	41	34.2%
vocal cord edema	27	22.5%
bowed vocal cord	17	14.2%
reflux laryngitis	13	10.8%
vocal cord atrophy	11	9.2%
laryngeal palsy	7	5.8%
laryngeal carcinoma	4	3.3%
Total	120	100%

Table 3: Common Laryngeal diseases (No. 120)

A wide variety of laryngeal conditions can cause hoarseness in the elderly, and there are many challenges associated with its evaluation. Early identification of symptoms, by both the patient and physician, and visualization of the larynx are mandatory for diagnosis. However, confusion surrounding the terminology of the various laryngeal lesions and inadequate laryngeal visualization contribute to the difficulty in diagnosing hoarseness in this age group. Diagnosis and treatment are frequently delayed as a result of misdiagnosis or poor awareness of early voice changes.

In our study, vocal cord polyp and edema account for more than 56% of cases, with vocal cord polyp the most encountered lesion among this age group. Changes in vocal cords due to aging process such as bowed vocal cords and vocal cord atrophy was seen to a lesser extent.

Neoplastic lesions are not uncommon in elderly patients that is why diagnosis of early voice changes is necessary to rule out any malignant changes. However, it was reported in our study in 3.3% of cases.

Conclusion

It is important that the otolaryngologist professional and general practitioners become familiar with aging aspects of the larynx in order to be prepared for the main laryngeal complaints of the elderly, thus improving their quality of life.

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