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This is the fourth issue this year. This issue covers variable topics of interest to our readers in the region.

A paper that reflect collaboration from the region and the World that span seven authors from seven different countries discussed The dos and don'ts of painful diabetic peripheral neuropathy: Primary care guidelines for the Middle East and North Africa. A panel of family medicine physicians was convened in Dubai to discuss current awareness of pDPN in the region and to develop consensus statements based on a review of meta-analyses, systematic reviews, and evidence-based guidelines on the screening, diagnosis and management of pDPN. The authors stressed that Diabetes mellitus (DM) is becoming increasingly common in developing countries and is of major concern in the Middle East and North Africa (MENA). Since at least 30% of diabetic patients may develop painful diabetic peripheral neuropathy (pDPN) within their lifetime, there is an urgent need to increase awareness of the condition among physicians in the region. The panel recommends that all patients with diabetes be screened at least annually for symptoms of neuropathic pain using screening tools such as the Doleur Neuropathique en 4 Questions (DN4) as well as thorough examination of the patient's feet. Treatment should aim to achieve a clinically meaningful reduction in pain using first-line agents including pregabalin, duloxetine or tricyclic antidepressants. The authors concluded that pDPN is common but under-diagnosed and inadequately treated in the Middle East and North Africa. Physicians in the region are encouraged to implement screening for pDPN and manage patients according to published guidelines.

A second Regional paper reviewed academic life. The authors stressed that Academician ship is a lifestyle that requires thinking not on several, but just on particular fields, such as to perform observation and experiments, follow up patients, educate students, produce new ideas and products, and write all of the results necessarily into the literature. Its duration takes the whole lifespan and it usually does not terminate with earning copious money.

A paper from Iran looked at the Effect of electro-acoustic factors on the continuous use of hearing aid in hearing impaired children under 15 years. This study was conducted based on a causal - comparative approach and by descriptive – analytical techniques using a questionnaire. The obtained results showed that ear resonating (buzz construction), hearing aid whistling, and annoying hearing of ambient sounds had an inverse relationship with the average hours of daily usage of hearing aid. Decreasing ability of understanding speech in the presence of noise is one of the main complaints in hearing impaired people. The authors stressed that speech is a very complex audio-signal consisting of sections and acoustical properties. Each of the sections have great importance for the formation of correct speech understanding. An impairment in organizing input hearing understanding, similar to the incidence of hearing loss, can cause significant implications in the understanding and identification of complex auditory signals, such as speech and music. It seems that small adjustments for the hearing aid and the solving of electro-acoustic problems can improve its daily usage4.

A paper from the sociology department explores how the people of Iran who have been prone to increasing socio-cultural change in the past few decades, are exposed to leisure and tourism to be spiritually rehabilitated. As found out, one of the ways to refresh and reactivate the people in a given society is to facilitate tour and travel for them. Similarly, changing economic conditions for large portion of the people on the one hand, and better communications and means of transportation have all contributed to boosting leisure and tourism in the country. It is worth noting that Iran's literacy rate which has enhanced in an unprecedented manner, has widely affected leisure and tourism at national level. Moreover, the government is also encouraging tourism in order to further activate the economic cycle. The article also explores how more and more people are motivated to go on leisure and tourism to further explore various cultural and touristic attractions of greater Iran from coast to coast. Modern social networks have

also played a major role in extending leisure and tourism for different classes of people. The article proposes that improved policy-making positively affects the industry

Kasmaei , S K & Asghari F did a Comparative study of the effects of narrative therapy and play therapy by group approach on inhibiting impulsivity, reducing aggression and increasing interpersonal relations. The research methodology was a quasi-experimental approach. The study population consisted of primary school parentless boys in Welfare Centers in the city of Rasht. The sample in this study included 30 primary school parentless male children (7-11 years old) who had been diagnosed with aggressive behaviors disorders, lack of interpersonal relationships and inability to control impulses by the consultants of welfare centers in Rasht. Using the available sampling method, the sampled members were randomly divided into three 10-subject groups of experimental narrative therapy group, experimental play therapy group and the control group. The research tools included overt and relational aggression questionnaire for primary school children, Hershfield impulsivity scale and children self-efficacy scale in interpersonal relationships with peers. The results showed that both treatment methods, namely group narrative therapy and play therapy are effective on inhibiting impulsivity, reducing aggression and increasing interpersonal relations at the level of (P < 0.01). Separately compared based on the results, we can conclude that the play therapy method is a more effective approach regarding the variables of impulsivity and aggression in comparison with the narrative therapy, while these two treatment methods are not statistically significant on variable of interpersonal relations. The group play therapy method can be used to reduce aggression and impulsive behaviors.

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The dos and don'ts of painful diabetic peripheral neuropathy: Primary care guidelines for the Middle East and North Africa

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Abstract

Background: Diabetes mellitus (DM) is becoming increasingly common in developing countries and is of major concern in the Middle East and North Africa (MENA). Since at least 30% of diabetic patients may develop painful diabetic peripheral neuropathy (pDPN) within their lifetime, there is an urgent need to increase awareness of the condition among physicians in the region.

Objectives: To increase awareness of physicians in the Middle East and North Africa of the increasing prevalence of DM and pDPN and to provide practical consensus recommendations to facilitate the diagnosis and management of pDPN.

Methods: A panel of family medicine physicians was convened in Dubai to discuss current awareness of pDPN in the region and to develop consensus statements based on a review of meta-analyses, systematic reviews, and evidence-based guidelines on the screening, diagnosis and management of pDPN.

Recommendations: The panel recommends that all patients with diabetes be screened at least annually for symptoms of neuropathic pain using screening tools such as the Doleur Neuropathique en 4 Questions (DN4) as well as thorough examination of the patient's feet. Treatment should aim to achieve a clinically meaningful reduction in pain using first-line agents including pregabalin, duloxetine or tricyclic antidepressants.

Conclusion: pDPN is common but under-diagnosed and inadequately treated in the Middle East and North Africa. Physicians in the region are encouraged to implement screening for pDPN and manage patients according to published guidelines.

Key words: Painful diabetic neuropathy, Middle East, North Africa, neuropathic pain, consensus recommendations

Introduction

Once considered a 'disease of affluence', diabetes mellitus (DM) is becoming increasingly common in developing countries and is of major concern in the Middle East and North Africa.(1) Complications of diabetes include cardiovascular disease, nephropathy and retinopathy, but the most commonly encountered complication is diabetic peripheral neuropathy (DPN),(2) and it is estimated that approximately 30% of diabetic patients have painful diabetic peripheral neuropathy (pDPN).(2-6)

Clinically, DPN is a diagnosis of exclusion, defined as "the presence of symptoms and/or signs of peripheral nerve dysfunction in people with diabetes after the exclusion of other causes".(7) pDPN has a significant negative impact on quality of life by reducing patients' mobility and ability to perform everyday tasks, increasing the risk of foot ulcers and amputation, disturbing sleep and causing psychological distress.(3, 8)

pDPN is widely under-diagnosed and often poorly treated. A survey conducted by the American Diabetes Association in 2005 found that up to 75% of patients who experienced pDPN symptoms were not diagnosed and that 56% of these patients were not even aware of the condition.(5) Other studies have also shown that patients who do receive treatment are often dissatisfied with the outcomes.(6, 9) The few studies of pDPN that have been conducted in Middle Eastern and North African countries suggest prevalence ranges from 22-65%, reflecting different populations and methods of diagnosing this condition, but may also indicate true differences from the expected prevalence of approximately 30%.(1, 10-12)

The present review and clinical guidelines aim to increase awareness of pDPN among physicians in the Middle East and North Africa as well as to provide practical consensus recommendations to facilitate the diagnosis and management of pDPN in the region.

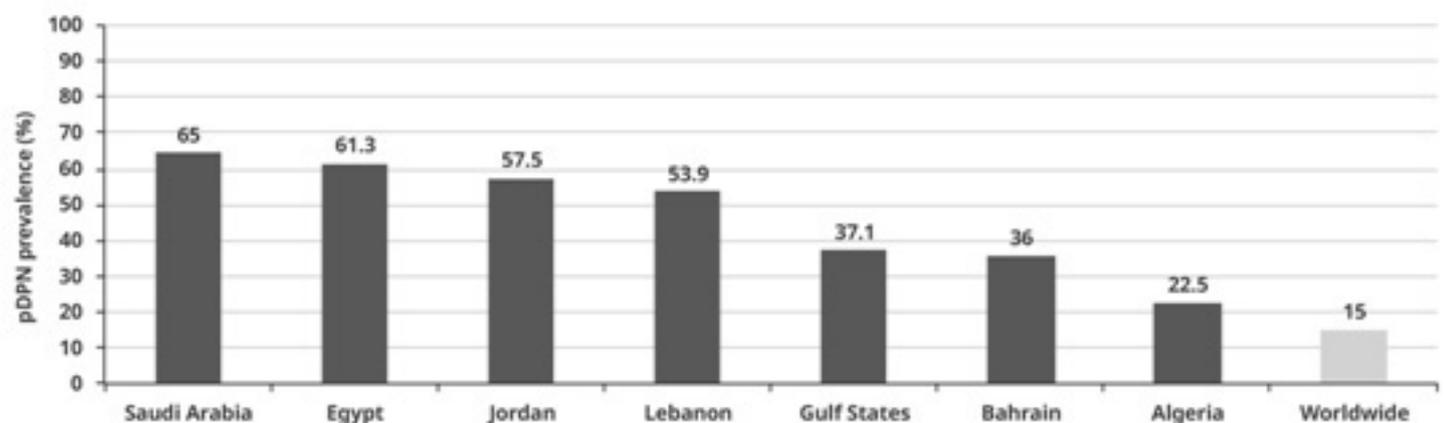
Materials and Methods

A panel of seven family medicine physicians from the Middle East and North Africa, together with Professor Rayaz A. Malik from Weill Cornell Medicine in Doha, Qatar and NY, USA, was convened in Dubai, United Arab Emirates, on 17 October 2015. The panel members had extensive clinical and research expertise in the diagnosis and management of pDPN in the general practice setting, while Professor Malik, who is a member of the writing group for the 2016 American Diabetes Association consensus statement on diabetic neuropathy, was an advisor to the panel. The key objectives of the meeting were to gain a better understanding of the most pressing challenges facing family medicine practitioners in the region regarding the management of pDPN in their day-to-day clinical practice and to develop consensus recommendations to optimize diagnosis and treatment.

The panel discussed 6 pertinent themes:

- 1) the current state of awareness of pDPN among physicians in the region,
- 2) key features of patient presentations with pDPN,
- 3) issues and challenges facing physicians with respect to screening for neuropathic pain,
- 4) goals and routine management strategies,
- 5) problems with initiating and maintaining treatment, and
- 6) methods for optimizing the patient-physician relationship based on evidence-based guidelines on the screening, diagnosis and management of pDPN.

Figure 1: Estimated prevalence of pDPN among patients with diabetes mellitus in countries in the Middle East and North Africa (1, 10, 13)



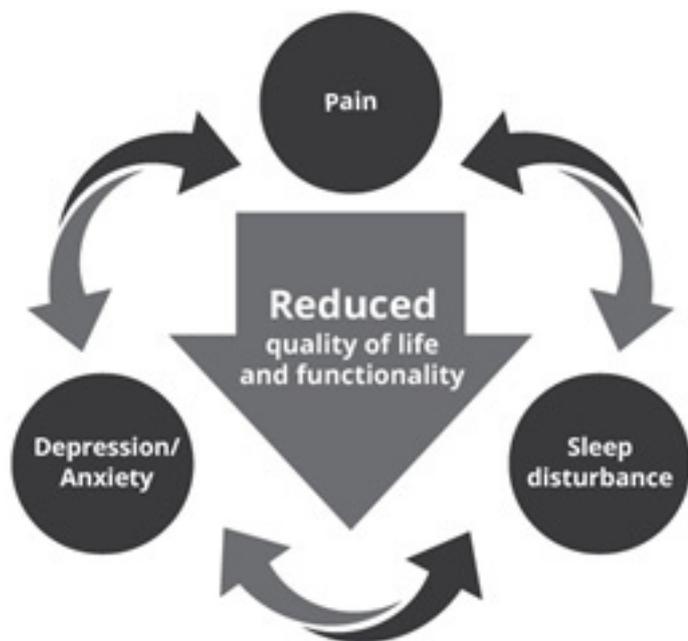
Recommendations

Epidemiology

Estimates of the prevalence of pDPN vary widely in the region due to a paucity of data. Moreover, current prevalence rates may be underestimated as patients often do not approach their physicians with symptoms of neuropathic pain and many remain undiagnosed.(8) The worldwide prevalence of pDPN among patients with DM is estimated to be around 30%, however in the Middle East and North Africa this ranges from 22.5-65% (Figure 1). (1, 10, 13)

Of note, most data have been gathered from patients in secondary and tertiary care centers and studies in primary care are required to establish the true prevalence of pDPN.

Figure 2: Intense pain, sleep disturbance, and mood disorders significantly reduce the quality of life and functionality of patients with pDPN



Burden

As pDPN can have significant adverse effects on quality of life, early recognition of neuropathic symptoms is crucial. Severe pain may significantly interfere with a patient's ability to exercise or walk, limit general activities of daily living, and alter sleep patterns as symptoms are often most intense at night(5, 14, 15). Indeed, one study reported that patients with pDPN who suffered from severe pain were willing to trade nearly a full day of their lives in order to avoid 1 additional hour of pain.(15) In addition, they also reported feeling approximately (21) years older than their actual age.(15) The combination of intense pain, sleep disturbance, poor mobility, and inability to perform general activities of daily living imposes a heavy toll on patients, which are strongly associated with mood disorders such as depression and anxiety (Figure 2).(16) Whilst a previous

study of 200 Emirati subjects with diabetes demonstrated an above average QoL score, this was significantly reduced in those with at least one complication affecting the 'foot', heart, eye or kidney.(17)

Etiology and risk factors

The exact etiology of pDPN is unknown and may be attributable to a combination of chronic hyperglycemia and cardiovascular risk factors such as dyslipidaemia and hypertension.(18)

The Diabetes Control and Complications Trial (DCCT) and its follow-up study, the Epidemiology of Diabetes Interventions and Complications (EDIC) trial, showed that intensive glycemic control can delay the development and progression of diabetic neuropathy in patients with type 1 DM (T1DM).(19, 20) However, patients with type 2 DM (T2DM) do not seem to benefit from intensive glycemic control as per a Cochrane meta-analysis and several large clinical trials.(4, 21, 22) Lipid levels, blood pressure, inflammation, insulin resistance, oxidative stress, vitamin D deficiency, height, cigarette smoking, and alcohol consumption have all been related to pDPN in various studies.(2, 10, 22-24)

Epidemiological analyses suggest that the following are significant risk factors for pDPN(25):

- long-standing diabetes of ≥ 10 years' duration
- age ≥ 65 years
- body mass index (BMI) ≥ 30
- female sex

Pathophysiology

The exact mechanisms underlying pDPN remain unclear, but both the peripheral and central nervous system are thought to be involved. Painful sensations can arise from damage to the A and C nerve fibers. Lesions of the peripheral nerves can increase their excitability, a phenomenon known as peripheral sensitization. This occurs via increased or altered sodium channel expression and function, which is associated with spontaneous painful discharges and reduced thresholds for activation leading to neuropathic pain.(26) Increased calcium channel expression also encourages the release of excitatory neurotransmitters such as glutamate and substance P, and can increase the excitability of neurons in the spinal cord (central sensitization)(Figure 3).(23, 27)

Efferent nerve fibers that descend from the brain to the dorsal horn of the spinal cord have a powerful inhibitory effect on pain signals sent via the afferent fibres; their function is reliant on neurotransmitters such as γ -aminobutyric acid (GABA), serotonin, and noradrenalin. Dysfunction of these pathways can also result in central sensitization.(27)

Clinical presentation

Patients with pDPN tend to describe their symptoms using similar terms and most describe either numbness or a tingling, electric shock-like, burning, shooting or stabbing pain in their feet or lower legs due to the involvement of the small sensory nerve fibers (Table 1).(5, 28, 29)

Figure 3. Pain pathways in patients with diabetic peripheral neuropathy

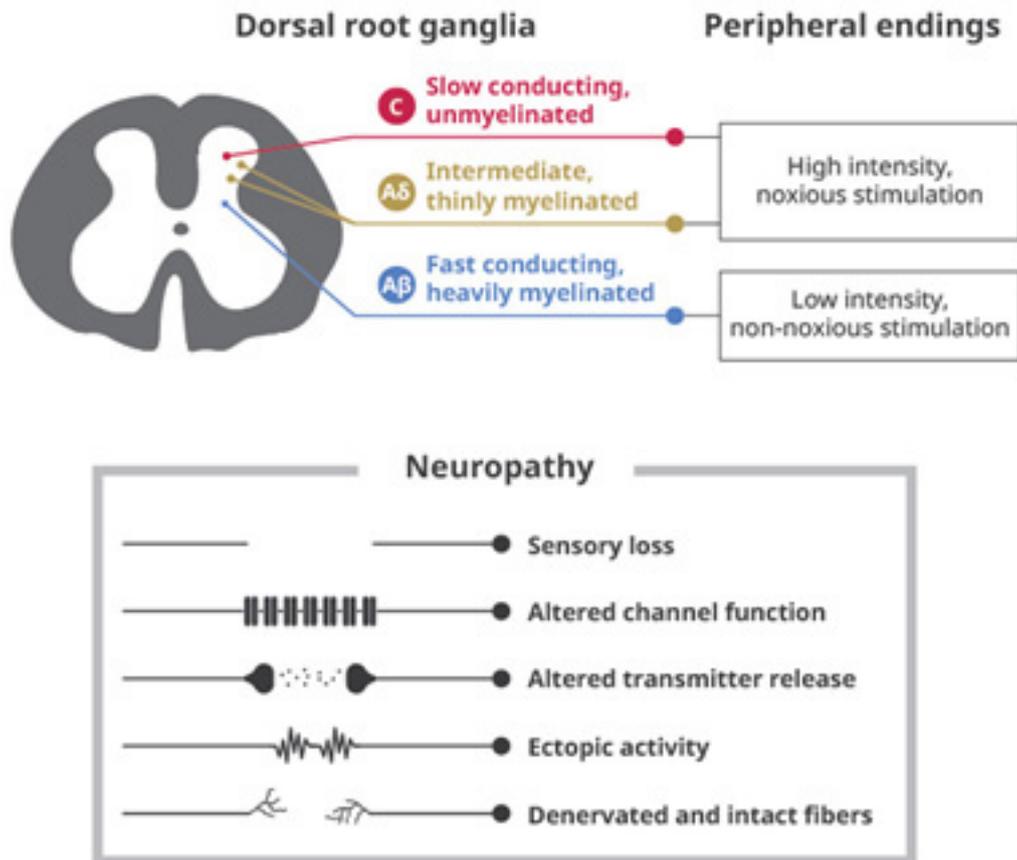


Table 1. Common Arabic, English and French terms used to describe symptoms of neuropathic pain by patients with pDPN.

Arabic term/script	English romanization	English term	French term
تنميل	"Tanmeel"	Numbing	Engourdissement
وخز	"Wakhez"	Tingling/ pins and needles	Picotements/ Fourmillement
حرق	"Hareek"	Burning	Brulure
وجع	"Wajaa"	Pain	Douleur

A classic 'stocking - glove' distribution of pain is expected with symptoms initially occurring in the toes, feet and lower limbs and in advanced cases progressing to the fingers and hands.(4) Many patients report that their symptoms are worse at night.(5, 28, 29)

Practice points: Typical symptoms of pDPN

Symptoms vary among patients but typically include at least one of the following:

- Numbness
- Tingling sensation
- Shooting/Stabbing pain
- Burning sensation

Other characteristics

- Worse at night
- Stocking - glove distribution: Starts in the feet, progresses up the lower limbs.

Table 2: Conditions to be ruled out when considering a pDPN diagnosis

	Autoimmune and hereditary disorders Lupus, Behçet's disease, Sjögren's syndrome, Charcot-Marie-Tooth disease, Friedreich's ataxia
	Endocrine abnormalities Hypothyroidism, acromegaly
	Infections Hepatitis B & C, HIV, Lyme disease, leprosy
	Malignancies and chemotherapy Neoplasm, lymphoma, multiple myeloma, platinum-based chemotherapies
	Inflammatory nerve disorders Vasculitis, chronic inflammatory demyelinating polyradiculopathy, sarcoidosis, primary biliary cirrhosis
	Medications Amiodarone, colchicine, isoniazid, hydralazine, metronidazole, nitrofurantoin, phenytoin, antilipidemics

Diagnosis and evaluation

A comprehensive physical examination should be performed when a patient with diabetes presents with neuropathic pain. A careful clinical history should be undertaken as the differential diagnoses are many and varied, and diagnosis may be challenging (Table 2).

The first step in assessing a patient is to determine whether there is any evidence of neuropathic pain. Neuropathic pain can be distinguished from nociceptive pain by using a screening tool and performing a thorough clinical examination (Table 3).

Table 3: Tests to be performed before diagnosing pDPN

Basic tests	Advanced confirmatory tests
<ul style="list-style-type: none"> • Complete blood cell count • Comprehensive metabolic panel • Vitamin B12 measurement • Serum protein electrophoresis with immunofixation • Fasting glucose measurement • Glucose tolerance test 	<ul style="list-style-type: none"> • Electromyography • Corneal confocal microscopy • Skin biopsy

Screening tools

It is recommended that all patients with metabolic syndrome/impaired glucose tolerance and Type 1/2 diabetes should be screened for neuropathic pain at least annually. A number of different screening tools are available that can aid with differentiating neuropathic and nociceptive pain including the Neuropathic Pain Questionnaire, the Leeds Assessment of Neuropathic Pain and Symptoms scale and the McGill Pain Questionnaire.(18, 25)

The Doleur Neuropathique en 4 Questions (DN4) scale is recommended as it has a sensitivity and specificity of 82.9% and 89.9%, respectively, and validated translations are available in 15 languages, including English, Arabic and French (see: Appendix).(25, 29, 30) It is a 10-item questionnaire - 7 items are based on symptoms and 3 on a simple and easy to perform clinical examination. A score ≥ 4 is suggestive of neuropathic pain (Figure 4).(25)

Figure 4: English translation of the Doleur Neuropathique en 4 Questions (DN4) scale recommended for distinguishing nociceptive and neuropathic pain (29)

DN4 Questionnaire

Please complete this questionnaire by ticking one answer for each item in the 4 questions below:

INTERVIEW OF THE PATIENT

Question 1: Does the pain have one or more of the following characteristics?

1 - Burning

2 - Painful cold

3 - Electric Shocks

yes	no
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Question 2: Is the pain associated with one or more of the following symptoms in the same area?

4 - Tingling

5 - Pins and Needles

6 - Numbness

7 - Itching

yes	no
<input type="checkbox"/>	<input type="checkbox"/>

EXAMINATION OF THE PATIENT

Question 3: Is the pain located in an area where the physical examination may reveal one or more of the following characteristics?

8 - Hypoesthesia to touch

9 - Hypoesthesia to prick

yes	no
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Question 4: In the painful area, can the pain be caused or increased by

10 - Brushing

yes	no
<input type="checkbox"/>	<input type="checkbox"/>

Clinical Assessments

Patients with pDPN present initially with pain in the feet and physicians are thus advised to remove a patient's shoes and socks to undertake a thorough clinical examination of the patient's feet. Tests include not only the three tests performed as part of the DN4 (testing for touch, pinprick, and allodynia), but also a more careful analysis of the patient's description of their pain. Traditionally, a monofilament has been used for assessing neuropathy; however, this is only useful for evaluating advanced neuropathy and for identifying patients at high risk of foot ulceration. It should therefore not be used to identify neuropathy as it will often be normal despite significant small fiber neuropathy.

The 3L (listen, look, locate) approach is recommended for identifying signs and symptoms of neuropathic pain(27):

- **Listen** to the patient's verbal description of their pain and note any mention of non-painful symptoms that are experienced in the same area as the pain.
- **Look** for any sensory abnormalities such as pain felt upon touching the sensitive area and note any unusually warm or cold regions and differences in color or texture relative to a non-painful adjacent site.
- **Locate** the region of pain and document its position using a pain drawing, which can be created by the patient or the physician. Make a note of any abnormal sensations on the drawing.

Practice points:

Recommendations for Clinical Assessment

- Apply the DN4 screening tool to identify neuropathic vs nociceptive pain
- Remove the patient's shoes and socks and examine his/her feet
- Employ the 3L approach: Listen to the vocal description of pain, locate the region of pain, and look for somatosensory deficits with the help of simple bedside tests

Increasing patient awareness is important for encouraging patients to self-report painful symptoms. Patients may not volunteer this information and it is recommended that physicians ensure that all at-risk patients are aware of the possibility of developing pDPN and of the symptoms they should look out for. It is also important to note that approximately 10-15% of patients with diabetes who experience neuropathic symptoms will have a neuropathy from another cause that may be treatable.

Practice points:

'Red flags' indicating that referral to a neurologist is required

- Asymmetrical pain
- Predominance of motor vs sensory neuropathy
- Rapid progression
- Acute onset
- Prominent autonomic symptoms

Contemporary Management

There is currently no cure for pDPN and treatment is challenging as many patients do not experience sufficient pain relief.(28, 31) In this context, combination pain relief regimens may be more effective than the traditional approach of trialing and discontinuing a single agent if this fails to provide sufficient relief.(31)

Treatment goals are focused on preventing the development or progression of DPN through an improvement in glycaemic control and vascular risk factors and educating patients as to how best to address their symptoms, employing pharmacologic and/or non-pharmacologic agents to help manage neuropathic pain to improve the patient's QoL.(5)

Practice points:

Treatment Goals

- A clinically meaningful reduction in pain(32):
 - 30-50% reduction in pain on a visual analog scale or
 - 2-point reduction on a 10-point Likert scale
- Manage sleep
- Educate patients
 - Provide information on pDPN
 - Provide guidance on self-care

First- and second-line recommendations for treatment published in guidelines for the Middle East and North Africa are consistent with those used globally and are summarized in Table 4. Most recent guidelines for treating neuropathic pain - including the International Association for the Study of Pain Neuropathic Pain Special Interest Group (NeuPSIG) - recommend the use of anticonvulsant GABA analogs (pregabalin or gabapentin), serotonin-norepinephrine reuptake inhibitors (SNRIs e.g., duloxetine), or tricyclic antidepressants (TCAs) as first-line therapy. Other options include opioid analgesics (Table 5).(31, 32) Other therapies such as topical nitrate, vitamin D and alpha lipoic acid, (33, 34) as well as non-pharmacological therapy such as acupuncture, and transcutaneous electrical nerve stimulation may also have a place in treating patients with pDPN. Vitamin B is frequently used in pDPN management in the MENA region, however, there are limited data in randomized trials testing the efficacy of vitamin B for treating peripheral neuropathy and meta-analyses have reported inconclusive evidence for its role in therapy.(35)

Practice points:

Pharmacologic therapy of pDPN

- Use GABA analogs (pregabalin or gabapentin), tricyclic antidepressants (TCAs) and serotonin-norepinephrine reuptake inhibitors (SNRIs) first-line
- Consider combining pregabalin or gabapentin with SNRIs or TCAs
- Opioid analgesics can be given for second-line use

Table 4: Global first- and second-line recommendations for the treatment of neuropathic pain associated with diabetic peripheral neuropathy (31, 32)

Guideline	First-line recommendations	Second-line recommendations
Middle East Region	Pregabalin, gabapentin, TCAs, lidocaine (topical)	SNRIs (duloxetine or venlafaxine-XR), opioid analgesics (e.g., tramadol, oxycodone)
French-speaking Maghreb	Pregabalin, gabapentin, TCAs, lidocaine (topical)	SNRIs (venlafaxine-XR or duloxetine), tramadol
European Federation of Neurological Sciences (EFNS)	Pregabalin, gabapentin, TCAs, SNRIs (duloxetine or venlafaxine ER), lidocaine (topical)	Tramadol, opioids, capsaicin patches
Canadian Pain Society (CPS)	Pregabalin, TCAs, gabapentin	SNRIs, lidocaine (topical)
American Academy of Neurology (AAN)	Pregabalin	Gabapentin, duloxetine, venlafaxine, sodium valproate, amitriptyline, tramadol, oxycodone, capsaicin
International Association for the Study of Pain (IASP) Neuropathic Pain Special Interest Group (NeuPSIG 2015)	Pregabalin, gabapentin, TCAs, SNRIs (duloxetine or venlafaxine)	Capsaicin 8% patches, Lidocaine patches, Tramadol
National Institute for Health and Care Excellence (NICE) 2013	Pregabalin, gabapentin, amitriptyline, duloxetine	Capsaicin cream, Tramadol (acute rescue therapy)

Patient counseling

Patients should be given clear, specific information on how to use their medications as well as counseling on expectation of the response to therapy, as an expected response may be 50% at best whilst a 30% reduction in pain is considered clinically meaningful. Patients may be disappointed if they expect complete resolution of their painful symptoms.

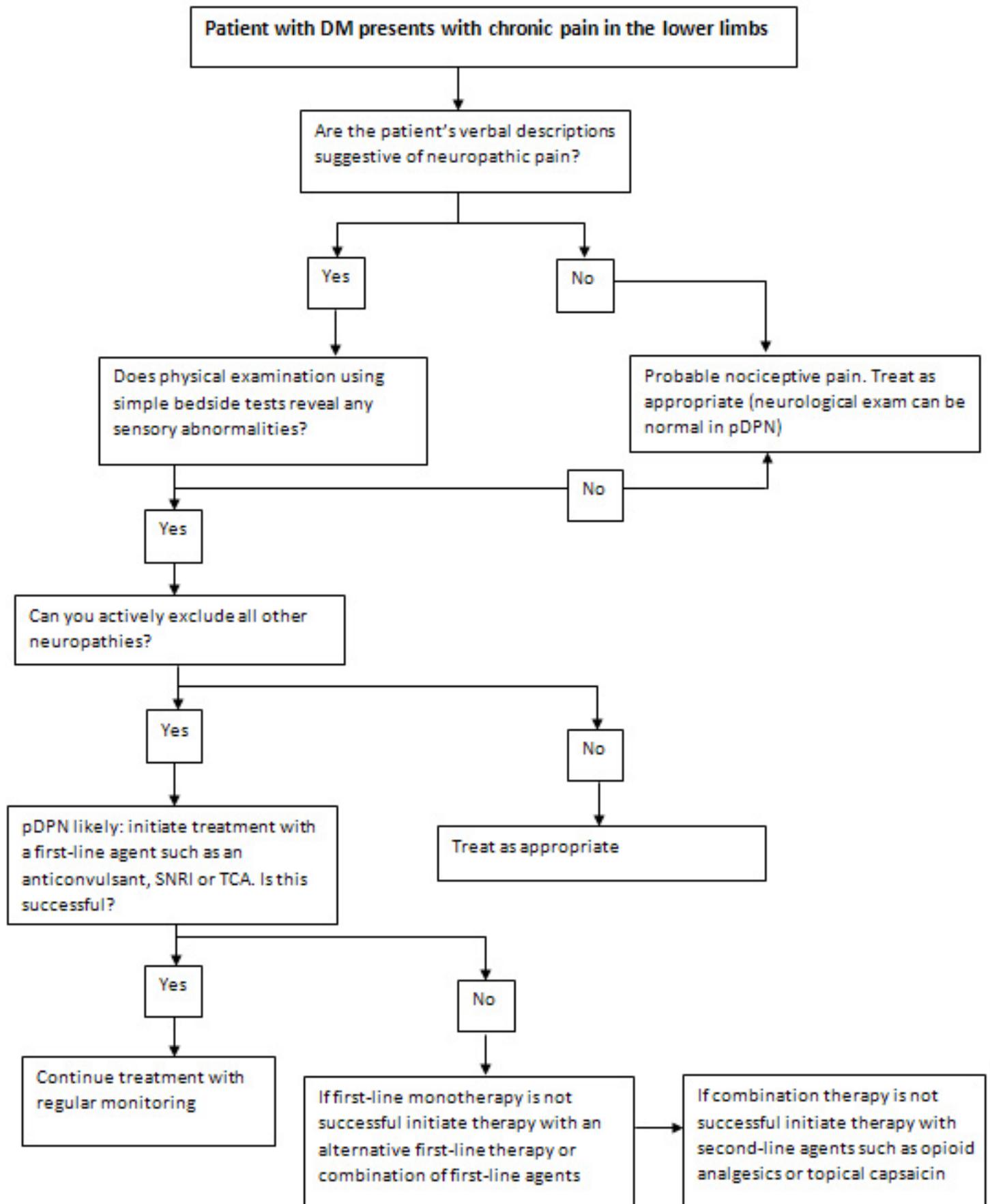
Physicians should clarify that the agents prescribed are used for a specific purpose and that many have multiple indications: TCAs for example are prescribed for their effect on neuropathic pain not because of their antidepressant effects and this should be made clear to patients. In addition, patients should also be educated about the side effects of different medications especially when prescribed in high doses and both benefits and disadvantages should be openly discussed with the patient, to ensure compliance.

It is also important to follow-up on treatment to ensure that the prescribed medication is having the intended effect; if not, the dose should be increased or an alternative be prescribed. A simple 11-point pain scale can be useful for distinguishing 'before' and 'after' pain scores to help determine the effectiveness of the prescribed treatment.

Table 5: Summary characteristics of treatments recommended for neuropathic pain associated with diabetic peripheral neuropathy.29, 31, 32, 34, 36 EU: European Union; ME: Middle East; US: United States

Treatment	Mechanism of action	Dosing	Potential Side Effects
Anticonvulsant GABA analogs	Bind to calcium channels and reduce the release of several neurotransmitters	<p>Pregabalin</p> <ul style="list-style-type: none"> • 150-600 mg/day in 2 or 3 divided doses (EU) • 150-300 mg/day in 3 divided doses (US) • 75 mg twice daily or 50 mg three times daily. Increase by 150 mg/day every 3-7 days as tolerated. Maximum dose 300 mg twice daily or 200 mg three times daily (ME) <p>Gabapentin</p> <ul style="list-style-type: none"> • 900-3600 mg/day in 3 divided doses (EU) • 900-1800 mg/day in 3 divided doses (US) • 100-300 mg three times daily. Increase by 300-900 mg/day every 1-7 days as tolerated. Maximum dose 1200 mg three times daily (ME) 	Sedation, confusion, peripheral oedema, dizziness
TCA's	Inhibit reuptake of noradrenalin and serotonin, block sodium channels, anticholinergic	<p>Amitriptyline</p> <ul style="list-style-type: none"> • 50-200 mg/day in 2 divided doses or once at night (EU) • 75-150 mg/day in 2 divided doses or once at night (US) • 25 mg/day at bedtime. Increase by 25 mg/day every 3-7 days as tolerated. Maximum dose 150 mg/day at bedtime (ME). 	Sedation, dry mouth, postural hypotension
SNRIs	Inhibit reuptake of noradrenalin and serotonin. Augment descending inhibitory pain pathways	<p>Duloxetine</p> <ul style="list-style-type: none"> • 60-120 mg/day (EU) • 60 mg/day (US) • 60 mg/day maximum dose (ME) 	Fatigue, nausea, increased sweating
Opioid analgesics	μ -opioid receptor agonist	<p>Tramadol</p> <ul style="list-style-type: none"> • 100 mg in 2 divided doses • Increase every 4-7 days to a maximum of 400 mg/day (100 mg per dose 4 times per day) • 25 mg/day in the morning. Increase by 25 mg/day every 3 days as tolerated. Maximum dose 100 mg four times daily. (ME) 	Nausea, vomiting, constipation, respiratory depression, dizziness
Lidocaine	Blocks sodium channels and dampens peripheral nociceptor sensitization and CNS hyperexcitability	<ul style="list-style-type: none"> • 5% patch • Apply 1-3 patches (5%) for up to 12 h/day 	Skin irritation
Capsaicin patches/cream	Depletion of the neurotransmitter substance P from primary afferent neurons and loss of epidermal innervation	<ul style="list-style-type: none"> • 0.075% cream applied up to 4x daily • 8% patch 	Erythema, burning pain, local skin irritation
Alpha lipoic acid	Selective modulation of neuronal T-type calcium channels	<ul style="list-style-type: none"> • 600 mg per day intravenously for 3 weeks (Grade A recommendation) 	Nausea, vomiting, and dizziness

Treatment Algorithm



Discussion

pDPN is increasingly common in the Middle East and North Africa but is underdiagnosed. Physicians in the region are encouraged to familiarize themselves with the latest guidelines for diagnosing and managing the condition. The use of screening tools such as the DN4 should be combined with a comprehensive physical examination to identify patients suffering from pDPN and DPN. The 3L (listen, look, locate) approach to clinical assessment is recommended. Physicians should educate their patients on identifying pDPN to avoid unnecessary suffering with loss of sleep and a reduced QoL.

Once neuropathy has been diagnosed, causes other than pDPN should be excluded. Affected patients can be managed according to international treatment recommendations for pDPN. Anticonvulsants (such as pregabalin and gabapentin), SNRIs and TCAs are recommended for first-line treatment. Patients should be closely followed-up and those with inadequate pain relief should be offered an alternative first-line agent that has a different mechanism of action, or combination therapy. Second-line agents should be reserved for patients who suffer more severe pain and who are unable to obtain adequate relief from first-line agents either alone or in combination.

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Appendices

Appendix A - English DN4 questionnaire (29)

DN4 Questionnaire

Please complete this questionnaire by ticking one answer for each item in the 4 questions below:

INTERVIEW OF THE PATIENT

Question 1: Does the pain have one or more of the following characteristics?

- 1 - Burning
- 2 - Painful cold
- 3 - Electric Shocks

yes	no
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Question 2: Is the pain associated with one or more of the following symptoms in the same area?

- 4 - Tingling
- 5 - Pins and Needles
- 6 - Numbness
- 7 - Itching

yes	no
<input type="checkbox"/>	<input type="checkbox"/>

EXAMINATION OF THE PATIENT

Question 3: Is the pain located in an area where the physical examination may reveal one or more of the following characteristics?

- 8 - Hypoesthesia to touch
- 9 - Hypoesthesia to prick

yes	no
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Question 4: In the painful area, can the pain be caused or increased by

- 10 - Brushing

yes	no
<input type="checkbox"/>	<input type="checkbox"/>

This can also be found in pdf format at:

[http://www.mejfm.com/June%202017/Neuropathy Appendix1.pdf](http://www.mejfm.com/June%202017/Neuropathy%20Appendix1.pdf)

Appendix B - French DN4 questionnaire (29)

Questionnaire DN4

Répondez aux 4 questions ci-dessous en cochant une seule case pour chaque item.

INTERROGATOIRE DU PATIENT

Question 1: La douleur présente-t-elle une ou plusieurs des caractéristiques suivantes?

1 - Brûlure

2 - Sensation de froid douloureux

3 - Décharges électriques

oui	non
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Question 2: La douleur est-elle associée dans la même région à un ou plusieurs des symptômes suivants?

4 - Fourmillements

5 - Picotements

6 - Engourdissement

7 - Démangeaisons

oui	non
<input type="checkbox"/>	<input type="checkbox"/>

EXAMEN DU PATIENT

Question 3: La douleur est-elle localisée dans un territoire ou l'examen met en évidence?

8 - Hypoesthésie au tact

9 - Hypoesthésie à la piqûre

oui	non
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Question 4: La douleur est-elle provoquée ou augmentée par:

10 - Le frottement

oui	non
<input type="checkbox"/>	<input type="checkbox"/>

This can also be found in pdf format at:
<http://www.mejfm.com/June%202017/Appendix2.pdf>

Appendix C - Arabic DN4 questionnaire (30)

استمارة DN4

بإش تعرف واش فيك صداع (حرق) العصب جلوب على هاد الأسئلة الأربعة بنعم أو لا:

استجاب المريض:

السؤال 1: واش هاد الصداع (الحرق) بحال شي علامة (خاصية) أو أكثر من بين هاد العلامات؟

لا	نعم	
<input type="checkbox"/>	<input type="checkbox"/>	1. عافية
<input type="checkbox"/>	<input type="checkbox"/>	2. (الحساس ببرد مؤلم) بحال تلج
<input type="checkbox"/>	<input type="checkbox"/>	3. منزعج الضو

السؤال 2: واش هاد الصداع معاه في نفس الموضع (البالصة) واحد العلامة أو أكثر من بين هاد العلامات؟

لا	نعم	
<input type="checkbox"/>	<input type="checkbox"/>	4. تنمأل
<input type="checkbox"/>	<input type="checkbox"/>	5. لقريص أو دكأن بليباري
<input type="checkbox"/>	<input type="checkbox"/>	6. كيركت عليك هاد الموضع
<input type="checkbox"/>	<input type="checkbox"/>	7. الحكمة

This can also be found in pdf format at:
<http://www.mejfm.com/June%202017/Appendix2.pdf>

Effect of electro-acoustic factors on the continuous use of hearing aid in hearing impaired children under 15 years

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Abstract

Objective: The aim of this study was to evaluate the effect of electro-acoustic factors (noise, distortion, feedback) on the continuous use of hearing aids in children under 15 years.

Method: This study was conducted based on a causal - comparative approach and by descriptive - analytical techniques using a questionnaire. In total, 168 children under 15 years affected by bilateral hearing loss, and who had used a hearing aid for at least one year and supported by welfare organization of Rasht, were selected as the statistical population. The data obtained was collected using self-administered questionnaires filled out by both children and parents together.

For statistical analysis, both analytical and descriptive techniques were used. The obtained data were summarized as one, two and three dimensional tables. For data analysis the t- test and variance analysis techniques were performed.

Results: The obtained results showed that ear resonating (buzz construction), hearing aid whistling, and annoying hearing of ambient sounds had an inverse relationship with the average hours of daily usage of hearing aid.

Decreasing ability of understanding speech in the presence of noise is one of the main complaints in hearing impaired people. Effective communication in complex listening environments requires the health of peripheral, central and cognitive auditory system. If the process fails at any point in these devices the ability of understanding speech reduces.

Speech is a very complex audio-signal consisting of sections and acoustical properties. Each of the sections have great importance for the formation of correct speech understanding. An impairment in organizing input hearing understanding, similar to the incidence of hearing loss, can cause significant implications in the understanding and identification of complex auditory signals, such as speech and music. Separating these different sounds when simultaneously presented is normally carried out on the basis of their different frequencies and the harmonic relations of each of them.

It seems that small adjustments for the hearing aid and the solving of electro-acoustic problems can improve its daily usage(4).

Key words: Electro-acoustic factors, hearing impaired, hearing aid, continuous usage of hearing aid

Introduction

Hearing is one of most important of human senses, and provides much information for humans, so any hearing impairment could affect the personal aspects of human life. Natural and good hearing is crucial for appropriate speech also (3).

Measurement and analysis of acoustic parameters is one of the objective assays (1). Each receptive human needs to recognize the source of sound production, especially speech, in order to integrate information of their surrounding environment which includes the complexity of various sounds. For this purpose, acoustical properties of sound sources should be separate and classified correctly (13). Hearing impairment leads to delay in development of hearing and speech communicational skills, and under special situations leads to inhibition of development of personal-social aspects of life. Then it leads to problems such as emotional, job, educational, mental, and social problems. Two effective factors seem to be the hearing loss amount and the age at incidence of hearing loss (3). Studies have shown that children with bilateral profound hearing loss cannot improve their oral capabilities because of the failure to appreciate their surrounding sound environment. Therefore, collection of the maximum remaining hearing for these children is important (10).

Hearing loss is one of affective causes on impairing speaking skills. Acoustic stimulation can positively affect the child's nervous development by allowing them to hear speech signals effectively because in deaf children who cannot hear speech and live in a silent environment, viable synapses for hearing-oral skills will drop and gradually be lost (14).

Development of language, speech, education, training skills, social skills and job skills depend on hearing sense in the early years of life. The first step for rehabilitation of the deaf and hearing impaired person is equipment to assist their hearing (11).

A hearing aid is the most frequently employed item of equipment for improvement of hearing loss and is the key to improve the input voices. Hearing aids cannot guarantee the hearing of all voices and sounds. The type, its operation and ear suitability are the critical factors on its efficiency (5). Usage of a hearing aid by patients is more important than prescribing of a hearing aid for them. When the patient does not always use a hearing aid, we should answer some important questions about the extent and causes of patient's satisfaction/dissatisfaction with their hearing aid. Identifying these should be followed by finding the appropriate way to overcome the non-use of hearing aids.

Based on unofficial studies and observation, it is found most Iranian deaf students do not use a hearing aid. Hence their educative-communicational disabilities are at least partly due to non-use of hearing aid. They give many excuses for this. For example, they say I forgot the hearing aid, it is broken, I lost it, the battery has run down etc. However in

most cases, the hearing aid is in their bag, but they are not interested in using it (2).

Katz (1994) revealed 25-50% of hearing aids are not used at the desired level in American children. Katz (1994) studied the hearing aids situation in different American schools for 15 years and showed that most causes for failure of routine use of hearing aid are impaired batteries, non-fit frame, broken control keys, high harmonic distortion and non-friendly repair systems (7).

Kochkins (1994) showed 18% of hearing impaired and deaf persons do not use their hearing aid(9). Karstizer (1973) studied the ways of successful application of hearing aids and showed that most patients are satisfied only when they are talking with one person. They have some problems when they talk with two or more persons. Meanwhile, they are satisfied when they are at home alone, during shopping and general meeting, however this satisfaction decreases significantly during trips and work (6).

Kiese-Himmel et al (2000) evaluated the hearing aid acceptance among children. They revealed children with unilateral profound hearing loss, use hearing aids less than children with bilateral profound hearing loss (8). Non-appropriate adjustment of hearing aid and non-maximal output are the most causes of its non-acceptance.

Franks and Beckman (1982) showed one of the causes of 88% of elderly patients for rejection of their hearing aid is high amplification of voices. Although these authors believed non-appropriate adjustment of hearing aid output had not led to its non-acceptance, it has a negative experience for patients (4).

Schuchman and Montgomery (1978) studied some questions about new users of hearing aids. They included 430 patients in their study and concluded 63% of causes of non-compliance is noise feedback (12). Since there is a difference between other studies and our Iranian people from the viewpoint of age, culture and society conditions, we investigated the effect of electro-acoustic factors on the continuous use of hearing aid in hearing impaired children under 15 years.

Materials and Methods

This trial was a causal-comparative study. A total of 168 hearing impaired children under 15 years who were affected by bilateral hearing loss, supported by welfare organization of Rasht, Iran and who used hearing aid for at least one year, were selected as the statistical population. All patients are new users of hearing aids (2011-2014). Obtained data were collected using self-administered questionnaires, filled out by both children and parents together.

For assessment of stability and robustness of questionnaires, 10% of the sample population filled them out again after one month. The questionnaires had more than 80% compatibility. For assessment of validity of questionnaires, the content was assessed by hearing aid experts and a specialist and then edited to remove objections.

A list was prepared using all new (2011-2014) users of hearing aids who received their hearing aid from welfare organization of Rasht, Iran. The patients were sorted based on hearing aid type. There were 196 patients, although we could get access to addresses and telephones for only 168 patients. All 168 patients were therefore chosen as the sample. We could access home telephone for 57 patients. We contacted them and requested a visiting appointment at the welfare organization of Rasht, Iran. Thereafter 38 patients came into the welfare organization of Rasht, Iran and filled out the questionnaire. Also 63 patients come into the welfare organization of Rasht, Iran for routine checks of frame, battery etc and filled out the questionnaire. Some questionnaires were sent by regular post to the home

addresses of patients and thus we collected 53 filled questionnaires by post also. Finally, we visited the home address for 14 patients and filled out the questionnaire at their home (38+63+53+14=168). If both hearing impaired and parents were illiterate, we filled out the questionnaire by means of interview.

For statistical analysis, both analytical and descriptive techniques were used (absolute and relative frequency, average, and middle). Obtained data were summarized as one, two and three dimensional tables. For data analysis the t- test and variance analysis techniques were performed. SPSS software was used for statistical analysis.

Results

Based on Table 1, it is shown that the individuals with less than 5 hours hearing aid usage daily had the most distortion; the individuals with more than 8 hours hearing aid usage daily had the lowest distortion.

Table 1: Frequency of distortion when patient used hearing aid based on hours of hearing aid usage daily

Hours hearing aid usage daily	Distortion when patient used hearing aid		Number
	Yes	No	
Less than 5 hours	23	29	52
5-8 hours	10	30	40
More than 8 hours	10	66	76
Total	43	125	168

Table 2: Average of daily hearing aid usage based on distortion

Distortion when patient used hearing aid	Frequency	Average (hours)	Standard Deviation	t-value	P-value	df
Yes	43	5.5814	3.3469	-3.797	0.000	=E.V.A166=E.V.N.A; 80/614
No	125	8.0240	3.7319			

From Table 2 it is shown that average of daily hearing aid usage for patients who had distortion is 5.8 hours and average of daily hearing aid usage for patients who had no distortion is 8. So the differences of these two values is significant ($t=3.797$; $P\text{-value}=0.000$). Therefore the null hypothesis (average of daily hearing aid usage for patients who had and had not distortion is equal) is rejected. It is concluded that distortion affects the average daily hearing aid usage.

From Table 3 it is shown that among the total of 168 studied patients, that 81 individuals (48.2%) experienced whistling of the hearing aid; and most of whom used the equipment for less than 5 hours daily, whereas 23 (28.4%) patients used it more than 8 hours daily. On the other hand, between 87 patients who did not have whistling of hearing aid, 53 (60.9%) individuals used it more than 8 hours daily.

Table 3: Frequency of whistling of hearing aid based on hours of hearing aid usage daily

Hours hearing aid usage daily	Whistling of hearing aid		Number
	Yes	No	
Less than 5 hours	36	16	52
5-8 hours	22	18	40
More than 8 hours	23	53	76
Total	81	87	168

Table 4: Hours of hearing aid usage daily based on whistling of hearing aid

Whistling of hearing aid	Frequency	Average (hours)	Standard Deviation	t-value	P-value	df
Yes	81	6.0494	3.4238	-4.741	0.000	=E.V.A166=E.V.N.A; 166/000
No	87	8.6552	3.6816			

Table 4 shows hours of hearing aid usage daily for patients who were faced with whistling of their hearing aid is 6.0 hours, and for patients who did not face whistling it is 8.6 hours. So the differences of these two values is significant ($t=-4.741$; $P\text{-value}=0.000$). Therefore the null hypothesis (average of daily hearing aid usage for patients who had and had not whistling of hearing aid is equal) is rejected. It is concluded whistling of hearing aid definitely affects the average of daily hearing aid usage.

From Table 5 it is shown that among the total of 168 studied patients, 25 individuals (14.9%) had noise, of whom 16 individuals were those who used their aid less than 5 hours daily.

Table 5: Frequency of annoying hearing of ambient sounds based on hours hearing aid usage daily

Hours hearing aid usage daily	Annoying hearing of ambient sounds		Number
	Yes	No	
Less than 5 hours	16	36	52
5-8 hours	4	36	40
More than 8 hours	25	53	76
Total	25	143	168

Table 6: Hours hearing aid usage daily based on annoying hearing of ambient sounds

Annoying hearing of ambient sounds	Frequency	Average (hours)	Standard Deviation	t-value	P-value	df
Yes	25	5.0800	3.1744	-3.428	0.001	=E.V.A166=E.V.N.A; 36/712
No	143	7.8042	3.7421			

From Table 6 it is shown that hours of hearing aid usage daily for patients who experienced annoying ambient sounds was 5.0 hours, whereas patients who did not face annoying ambient sounds was 8.6 hours. So the differences of these two values is significant ($t=-3.428$; $P\text{-value}=0.001$). Therefore the null hypothesis (average of daily hearing aid usage for patients who had and had not annoying hearing of ambient sounds is equal) is rejected. It is clear that annoying hearing of ambient sounds does affect the average daily hearing aid usage.

Discussion

The aim of the present study was the investigation of the effect of electro-acoustic factors on the continuous use of hearing aid in hearing impaired children under 15 years supported by welfare organization of Rasht city. In one study about problems during hearing aid usage Raanaei and Goorabi (1994) revealed that among 932 impaired veterans, 874 (93.7%) individuals did not have a hearing aid or did not have a problem in hearing aid usage. Meanwhile 0.85% individuals had nonsense sounds in their hearing aid (12). In the present study, 13.7% individuals faced rustle and nonsense sounds. Raanaei and Goorabi (1994) showed 0.43% individuals noted high and annoying sounds (12), whereas in our study 14.9% individuals faced high and annoying sounds. Raanaei and Ghoorabi (1994) showed 0.75% individuals reported whistling of their hearing aid (12), whereas in our study 48.2% individuals faced this.

Akbarlou-Shabgahi (2001) studied 513 Tehran deaf students and revealed 16.98% students did not use their hearing aid, since they rejected uncomfortable sounds from it, and also 11.32% students rejected hearing aid use because of nonsense and non-clear sounds. In our study 13.7% individuals had nonsense and non-clear sounds, 14.9% individuals were faced with uncomfortable sounds from the hearing aid and 25.6% individuals were faced with distortion of hearing aid. Therefore there are fundamental differences between our and their study. It could be due to statistical population and sample size.

The results showed that the ear resonating (buzz), whistling of hearing aid, and annoying hearing of ambient sounds had an inverse relationship with the average hours of daily usage of hearing aid.

One of the important factors on continuous usage of hearing aid is whistling of hearing aid. This problem is due to the hearing aid's frame mostly. In powerful hearing aids care should be taken that the frame can snugly fit with the ear canal. Most available hard frames are not appropriate. Hence the costs should cover the provision of soft frames in welfare organizations. Meanwhile, for growing children, new frames should be prepared regularly due to gradual development of ear canal.

Other factors relevant to hearing aid whistle problems are disturbance of the frame's tube, speaker's tube, microphone, ear wax etc and the non-appropriate adjustment of the hearing aid, etc. These factors could be overcome by using appropriate consultation and education, periodical review of hearing aid, and periodical inspection of ear canal.

In addition, electro-acoustic factors contribute to the annoying hearing of ambient sounds. This factor could be detected by audiological tests (SRT-MSL-SDS-USL) and the study of the dynamic range by audiologists so that the problem could be overcome by the prescription of an appropriate hearing aid.

Conclusion

Based on our findings, it is recommended that welfare organizations should provide hearing aids that have minimum internal noise and also recommend the provision of digital hearing aids that are adjustable, based on the type and extent of hearing loss. It is recommended that analogue and Digitrim hearing aids should be replaced by automatic and multi-program hearing aids. Providers should pay attention to shape, size, quality and patient's requirements. Meanwhile it is necessary to educate on careful use and daily control of the hearing aid by audiologist experts. It is recommended that there is periodical inspection of patients (ear canal control for ear wax etc) such as planned and monthly hearing aid control by audiologist experts. We recommend the preparation of a special form to order a hearing aid evaluation, to collect patients' ideas and also monitor the hearing aids each six months.

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Comparative study of the effects of narrative therapy and play therapy by group approach on inhibiting impulsivity, reducing aggression and increasing interpersonal relations

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Abstract

The main objective of this study was to compare the efficacy of group narrative therapy and play therapy on inhibiting impulsivity, reducing aggression and increasing interpersonal relations. The research methodology was a quasi-experimental approach. The study population consisted of primary school parentless boys in Welfare Centers in the city of Rasht. The sample in this study included 30 primary school parentless male children (7-11 years old) who had been diagnosed with aggressive behaviors disorders, lack of interpersonal relationships and inability to control impulses, by the consultants of welfare centers in Rasht. Using the available sampling method, the sampled members were randomly divided into three 10-subject groups of experimental narrative therapy group, experimental play therapy group and the control group. The research tools included overt and relational aggression questionnaire for primary school children, Hershfield impulsivity scale and children self-efficacy scale in interpersonal relationships with peers. The results showed that both treatment methods, namely group narrative therapy and play therapy are effective in inhibiting impulsivity, reducing aggression and increasing interpersonal relations at the level of ($P < 0.01$). Separately compared based on the results, we can conclude that the play therapy method is a more effective approach regarding

the variables of impulsivity and aggression in comparison with the narrative therapy, while these two treatment methods are not statistically significant on variable of interpersonal relations. The group play therapy method can be used to reduce aggression and impulsive behaviors.

Key words: Narrative therapy, Play therapy, Impulsivity, Aggression, Interpersonal relations

Introduction

Attention to children's growth and development is important in terms of different aspects. Children, as future-makers of their own society, will be useful to the society when they have grown and been fostered in a healthy, growing and safe family environment. But in the meantime, some children are deprived of the blessings of developing in the family environment and their growth is faced with challenging conditions. One of the problems of social life is addressing the issues of children that have been orphaned for some reason. Most orphaned children have lost their parents or one of them as a result of various events and accidents, or for reasons such as the parents do not have the competence necessary to foster their own children and the children have no in-laws or relatives able to take custody of them. After breaking up of families because of divorce or death of a parent, it has frequently been seen that innocent children have been entrusted to institutions for parentless children and children with irresponsible caretakers in the name of poverty or inability of one of the parents, or their remarriage and have deprived them of the luxury of having families [1].

Living in orphanages creates many challenges in the process of child development that could adversely affect various aspects of children's psychological development [2]. Due to deprivation of a natural family environment, the parentless children and children with irresponsible caretakers living in the orphanages' nursery encounter a variety of damage and deprivation. Thus, as children constitute a major and important group of our country's population, accurate and complete recognition of this class would be effective in helping to create material and spiritual grounds for their emotional and psychological growth and development [3].

Children living in welfare centers have a wide range of behavioral and emotional problems, including a higher prevalence of aggression [4]. Therefore, paying special attention to this group of children and treatment of aggressive behaviors in this particular environment seems to be much more important. Defining the term aggression is very difficult. Since, neither the aggressor's intention and purpose nor the feelings and perceptions of the victim can be observed directly. The aggressive behavior is profoundly influenced by the social judgments of the aggressor and the victim of aggression. Aggression usually refers to a behavior with the intention of harming others or destroying the property of individuals [5]. Aggression can be physical, such as kicking, pushing or biting, or it can be verbal, such as backbiting, humiliation, insulting and slander [6]. In other words, aggression arises from the objective to harm and is a tendency to participate in the traumatic physical and psychological actions to control the actions of others [7].

The other problem of these children is impulsivity. Impulsivity has been described as intense tendency to repeat a behavior, without sufficient thinking against internal and external stimuli [8].

Impulsivity has been mentioned in some texts as risky behaviors [9]. Impulsivity in these children is such that these children respond to all questions before they finish. Waiting for their turn is very difficult for them. They often intrude on the work of others, and may jump in the middle of others' talk or play. These children are very restless and impatient due to high impulsivity, and these features cause disturbance in their social and academic situations [10]. In other words, impulsivity is a behavior without thinking and realizing and acting by instinct, regardless of the consequences of a behavior, and includes a wide range of behaviors that occur with a high amount of risk and without spending the time for planning or considering various aspects and possible consequences of that behavior, which often leads to adverse consequences [11].

These children lack intimate relationships with their friends due to being aggressive and impulsive. For the same reason, they grapple with many problems in their interpersonal relationships [12]. Interpersonal communication is a process through which, we share information, ideas and emotions via verbal and nonverbal messages with others. These communications are often face to face communications with a limited number of participants (usually two) [13]. Due to not respecting turns and game rules, failure to follow instructions, disturbing the order and impulsive behaviors, these children are rejected by their friends, and negative consequences that they frequently get from their environment would damage their self-confidence and predispose them to depression and anxiety. Hence, one of the signs of mental health is the presence of healthy interpersonal relationships. In this case, the children's social contact goes beyond the family and involves the communication with their peers' world. Connecting with peers is of great importance even for little children since communication with peers, especially friends, plays an important role in their life and evolution. Friends are the most important source of companionship and camaraderie. [14].

One method of treatment for such children can be play therapy. Children should be seen and recognized based on a developmental approach. They are not small adults. Their world is one of objective realities, and their experiences are often expressed through playing. Therapists, who seek to facilitate the translation of children's emotional world when exploring such, need to leave their real and verbal world and step down into the cognitive-affective world of children. The usual way of communication for children is playing and activities [15]. In this type of treatment, the effective therapeutic relationship with children is well established through playing and games. Playing is a way through which conflicts can be solved and feelings can be expressed. Toys realize this process; for they are indeed ways that the children express themselves. The children's free games somehow express what they want to do. When children play freely and without guidance, they show a period of independent thought and action. They release feelings and attitudes that pressure themselves to get free [16]. Feelings and ideas that may be very threatening for children when directly expressed can be safely projected

through toys that children pick up by themselves. Instead of verbal expression of thoughts and feelings, the child can bury a doll in the sand, shoot it, or hit it, which may be representing his or her younger brother [17].

In addition to the play therapy, in recent year, storytelling approach is widespread for understanding human behavior in different fields of psychology. Because of certain circumstances of childhood in terms of their cognitive abilities, the children can further use narrative therapy method. In fact, closeness and proximity of children to major interpersonal events in everyday life and their immersion in sensory and objective aspects of experiences have given a stronger influence to these events in their stories of lives [18]. Narrative therapy, as a treatment technique, has wide dimensions and is not limited only to treating the psychological problems of children. In narrative therapy, it is assumed that the change in the language and literature of life stories would lead to alterations in the individual's life meaning, and create new opportunities for treating and relationships with others through changing the life stories [19]. Generally, children identify with the characters in the story, and with making hypotheses and providing different solutions to resolve the challenges of the story characters, they grow their problem solving skills [20]. By understanding the relationship between the story subject and their life theme, children can directly think about their issues and find solutions for them [21]. The relationship between the storyteller and the listener is an important part of the narrative therapy, which provides the children with an opportunity to tell their story both emotionally and cognitively. Narrative therapy, in addition to strengthening the parents - children relationship, shapes a more integrated self in the children [22].

Therefore, considering the importance of the educational aspect of story and storytelling as well as the play therapy as an art of communicating with children, this study aimed to assess and compare the effectiveness of narrative therapy and play therapy through a group approach on inhibiting impulsivity, reducing aggression and increasing interpersonal relationships by using the principles of playing as a valuable and effective means.

Methodology

Population, sample, sampling method

This was a quasi-experimental study with a pre-test and post-test design by a control group. The independent variable was group narrative therapy and play therapy, each applied separately and distinctly only in the experimental group and their effects on inhibiting impulsivity, reducing aggressive behaviors and improving interpersonal relationships of parentless primary school boy children in the experimental group, were compared with the control group. The study population consisted of primary school parentless boys in Welfare Centers in the city of Rasht, in the academic year of 2016-2017. The sample in this study included 30 primary school parentless male children (7-11 years old) who had been diagnosed with aggressive behaviors disorders, lack of interpersonal relationships and

inability to control impulses, by the consultants of welfare centers in Rasht, who had clinical and medical records in private clinics based on the same diagnosis. In addition, by doing semi-structured interviews with children, caregivers and educators of children in the care centers, based on the fifth edition of the Diagnostic and Statistical guidance on the criteria of Mental disorders (DSM-5), the presence of these disorders were confirmed in the children. The samples were selected by convenience sampling method from the welfare centers in Rasht. Then they were randomly divided into two experimental and control groups, and were asked to answer overt and relational aggression questionnaire for primary school children, Hershfield impulsivity scale and children self-efficacy scale in interpersonal relationships with peers. Subsequently, the samples were randomly divided into three 10-subject groups of experimental narrative therapy group, experimental play therapy group and the control group. Then the children in the experimental group separately participated in ten, one and a half hour sessions, of narrative therapy and play therapy. After the intervention sessions, the children were asked again to answer the same previous questionnaires.

Research Tools

Overt and relational aggression questionnaire for primary school children

This questionnaire contains 21 statements on relational and overt aggression that is completed by teachers and educators. The statements are set as such to cover varying degrees of severity of aggression and are rated based on the occurrence rate of behavior. French and Janson (2002) define aggression consisting of three dimensions of manipulating interpersonal relations, spreading malicious rumors and rejection of others. To prepare the relational aggression questionnaire, each of the above dimensions has been adapted to Iranian culture, and the questionnaire statements have been classified in these three dimensions. Respectively, 2, 4 and 2 statements have been considered for manipulating relationships, peer rejection and gossiping [23].

In the dimension of overt aggression, some statements are designed regarding physical aggression (7 statements), verbal reaction (3 statements) and proactive aggression (3 statements). Scoring is done on a Likert scale from 1 to 4. Then the scores of each statement in each factor are summed and the factor scores were obtained and compared with the mean and standard deviation of scores of girls and boys. The scores higher than one standard deviation above the normal range in each factor were seen as aggression. The Cronbach's alpha coefficient for the whole questionnaire in this study is equal to 0.91 and is highly desirable. The Cronbach's alpha coefficient for physical, relational and reactive aggression is equal to 0.86, 0.83 and 0.81, respectively [24]. According to the overt and relational aggression questionnaire for primary school children, in physical aggression, the scores higher than 8 for girls and the scores higher than 10 for boys were considered aggressive. In relational aggression, the scores higher than 18 for girls and the scores higher than 17 for boys

were considered aggressive. In verbal - proactive reactive aggression, the scores higher than 15 for girls and the scores higher than 16 for boys were considered aggressive. The reliability calculated in this study for physical, relational and reactive aggression was 0.81, 0.87 and 0.79, respectively.

Hershfield impulsivity scale

The impulsivity scale in 1965 by Hershfield for evaluation of impulsivity in primary school children was used. The tool has 19 items that are set for its implementation in the form of 'properly - improperly'. In this tool, impulsivity is defined as a desire to fidget, lawlessness and indulging in violent games. The tool is potentially made for children with control and coping problems and externalizing disorders. The reliability of this test, made by Hershfield by test-retest method, is equal to 85%. Also, in Saati's research (2016), the Cronbach's alpha coefficient was obtained as 84% for the scale [25]. The reliability calculated in this study based on the Cronbach's alpha coefficient was 0.76.

Children self-efficacy scale in interpersonal relationships with peers

The children self-efficacy scale in interpersonal relationships with peers was developed by Wheeler V. Ladd (1982) with the aim of measuring self-efficacy of children in interpersonal relationships. Any item of this scale is written as an unfinished sentence where children must choose one of the four options (Very Easy, Easy, Hard and Very Hard) about the provided sentence due to their status. The options are reversely scored, and the score of each participant occurs in a range from 22 (attainable minimum score) to 88 (attainable maximum score).

The standardization of this test in Iran was done by Hossienchari (2008), which results revealed the realization of psychometric properties of the scale used to assess self-efficacy in students. The reliability coefficients of the total scale, conflict subscale and no-conflict subscale were 0.87, 0.83 and 0.78, respectively [26]. The reliability calculated in this study was 0.89 based on the Cronbach's alpha coefficient.

Procedure

In accordance with the planned educational program, educational interventions were designed and implemented. The experimental group was trained in ten 90-minute sessions during seven weeks, while the control group received no intervention.

The summaries of play therapy training sessions are as follows:

First session

Before starting the group sessions, the children were individually led into the play therapy room in a session, which goals included reducing their sensitivity to the play therapy room, familiarity with it and familiarity and establishing a good relationship with the therapist.

Second session

The group members were introduced to each other. In this session, the children's adaptation with the environment and each other was considered. To establish friendship and safety, any game suggested by children was played. In this particular session, the therapist had the role of mediator to have better communication between children.

Third session

Firstly, to prepare children to participate in group games, mini basketball game and group golf play were used. The aim of playing these games was to create vitality and encouragement of children for later games. Also, these games were raised and selected for strengthening communication skills, anxiety reduction and public participation.

Fourth session

In this session, wild and domestic animal toys were used with the main purpose of encouraging the children to talk and explore the quality of their relationships with others and vice versa. Other objectives were as follows: Discovering the children's concerns about their relationships in the future, discovering the main sources of their depression and anxiety, the discovery of fear or withdrawal from relationships with others, and finally, discovering the factors that have distanced them from the path of normal development.

Fifth session

This session involved the review of playing with toy animals in the previous session and playing the performances that children were willing to do in the last session, to bring into this session. The purpose of doing the play chosen by children was to investigate the roots of children's problems, since the children chose plays consistent with their current psychological conditions.

Sixth Session

This session included the participation of children and consultation with them about dramatic plays of other children. The idea was to get children familiar with different stories and learn the ways to solve them so that in case of occurrence of another problem, they will experience lower levels of anxiety and depression.

Seventh session

It included playing with dough which is a valuable tool in playing with children. When playing with dough, children make important figures in their lives in their own present, past and future and interact with the characters, express feelings and re-experience.

Eighth session

It included the imaginary trip game. The most important aspect of these imaginary journeys is to encourage the children to tell their stories, take a look inside themselves and others' behaviors and find out the possible causes of some past events. In this game, the fears of children are identified, and based on their imagination, the children travel to the present, past and future and communicate with different characters of their lives.

Ninth session

In addition to review, the imaginary trip play helps them provide solutions for problems encountered in the course of an imaginary trip and also hear other children's comments, while they do not think about the worthlessness of their opinions.

Tenth session

It consisted of review and revision of previous sessions and was the end of the educational intervention.

Overall routine of therapy sessions

Narrative therapy involved giving lectures on the raised topics associated with the table below and providing examples as well as practical performing of techniques and interviews with the group members.

Exclusive content of narrative therapy sessions

Session	Content
1	<p>Welcoming, introducing the sessions' structure and basic rules, introducing participants to each other.</p> <p>Storytelling of "Blatherer (Secret telling) Heart" story: Accumulation and lack of understanding and processing of information and suffering from mental disorders in humans.</p> <p>Assignment: Find a story in which a person with mental illness acts abnormally.</p>
2	<p>Presenting the selected story: "Develop how you want it to grow."</p> <p>Story building and working on metaphors:</p> <p>Introduction: The therapist tells the children that we want to go on a voyage and write a story about the events of the trip. Choose a title for this story.</p> <p>Name three items that you want to take with yourself on the trip.</p> <p>Write a paragraph about farewell and those present at the ceremony.</p> <p>Put three confidential advices inside an envelope and give it to a trusted person.</p> <p>Assignment: If you replace the old storyteller, how would you tell the story and with what animal character? Write your story.</p>
3	<p>Presenting the selected story: "The Pursuit of Happiness"</p> <p>Story building and working on metaphors:</p> <p>Chapter One: What may we encounter on this trip? Who will we face? What will be the new climate conditions? Write a paragraph about each.</p> <p>Assignment: Write a story according to the meaning and form of "The Pursuit of Happiness" story.</p>
4	<p>Presenting the selected story: "Flight to New Horizons"</p> <p>Story building and working on metaphors:</p> <p>Chapter Two: The ship is moving, and something is in the water. Passengers are busy watching the sea and surroundings on the deck. Suddenly, someone screams that something is seen under water. The participants must write a paragraph about what they see underwater.</p> <p>Assignment: Write about an experience of your past life in the form of the story "Flight to New Horizons".</p>
5	<p>Presenting the selected story: "Good but Not Perfect"</p> <p>Story building and working on metaphors:</p> <p>Chapter Three: A mysterious box is found. The children will be asked to talk about the nature of the box and its contents, its owner, how to open its locks and whether we should open it or not, and make notes of their content in their notebook.</p> <p>Assignment: Rewrite an experience of your life in the form of the story "Good but Not Perfect".</p>
6	<p>Presenting the selected story: "Changing behavioral patterns"</p> <p>Story building and working on metaphors:</p> <p>Chapter Four: "Need for change"</p> <p>It is night and the ship is moving. It is reported to the captain that another ship is crossing their path, and it does not respond to any signals. They should act as soon as possible, otherwise the ships will collide. The children need to write a paragraph about taking appropriate measures to prevent the danger. They will write it after a group discussion.</p> <p>Assignment: Rewrite the selected story about another animal other than crow.</p> <p>Try to make friendship with animals like cats, pigeons, etc. that run away from you, and report the results.</p>

7	Presenting the selected story: "Making friends and keeping the friendship" Story building and working on metaphors: Chapter Six: A dream: Sea is calm and the ship is moving and the passengers are asleep. One of them is dreaming. Guess the dream and write a paragraph about it. Assignment: Write a paragraph about the initial contact with your closest friend. Make an interview with him/her and write his/her opinions about yourself.
8	Presenting the selected story: "Do not drop the handle" Story building and working on metaphors: Chapter Seven: Reaching a mysterious island: The passengers are notified that because of the past events, much time has been lost and food and fresh water to continue the journey are over. They are forced to get off on the mysterious island near them. The children should write a paragraph about this mysterious island. Assignment: Find an ant and follow it until its nest. Summarize the statements that the ant repeats by itself when working in a paragraph
9	Presenting the selected story: "Let Joe do it" Story building and working on metaphors: Last chapter: Reaching the destination: Finally, the ship arrives to its destination and docks at the pier. The travelers had a lot of work to do. Everyone gets busy to quickly prepare themselves for returning home. The children should write a paragraph about their feelings and actions. Assignment: Write a paragraph about a skill that you think you can do better than others. How were you at the beginning? And, how have you gained such a skill? Write another paragraph.
10	Review of the program: Helping participants to review and rewrite their story Follow-up and evaluation of the treatment: Obtaining feedback from participants about the program and evaluation

Findings

To test the main hypothesis, the analysis of covariance (MANCOVA) by K Matrix method was used. This test is a statistical method that allows you to examine the effect of the independent variable on the dependent variable, while eliminating or removing the effect of the other variables. Also, using the K Matrix method, it is shown which method of treatment (independent variable) has had a greater effect on the dependent variables.

The test assumptions, including the homogeneity of regression, linear relationship, homogeneity of variance - covariance matrices and variances equality were tested and all were confirmed.

Descriptive findings (descriptive indicators of dependent variables)

Table 1: Mean and standard deviation of the pre-test of experimental and control groups

Groups	Statistical indicator	Impulsivity	Interpersonal relationships	Aggression
Play Therapy	Mean	5.04	69.39	23.66
	SD	0.66	2.68	3.23
Narrative therapy	Mean	7.97	63.05	41.21
	SD	0.68	2.8	3.38
Control	Mean	10.59	53.16	48.43
	SD	0.56	2.28	2.75

As can be seen in [Table 1], after adjusting, the scores of experimental and control groups in the post-test of impulsivity, interpersonal relations and aggression are different from each other. To examine whether this difference is statistically significant or not, and if it is caused by the effect of education, the MANCOVA analysis with "Bonferroni" correction was performed by K Matrix method.

Inferential results

Table 2: Testing the combined effect size based on Wilks Lambda

Wilks Lambda	Value	F	df1	df2	sig	η^2
	0.154	11.34	4	44	0.01	0.61

According to the above table and based on adjusted Bonferroni alpha (0.017), training of group narrative therapy and play therapy has had a significant effect on impulsivity, aggression and interpersonal relationships in a composite variable with η^2 Partial = 0.53, Wilk's Lambda = 0.154 and $F(44.4) = 11.34$ ($P < 0.01$). The Eta squares values seen in the above table are a parabola of the variance related to the new composite variable. The general rule implies that if this amount is greater than 0.14, the size effect is high. The Eta parabola square shows the severity of this effect (0.61), which indicates a very high size effect. The significant effect of training group narrative therapy and play therapy on impulsivity, aggression and interpersonal relationships indicates that the means of dependent variables are different in these groups.

Table 3: Testing the effectiveness of group narrative therapy and play therapy on inhibiting impulsivity, reducing aggression and increasing interpersonal relations

Sources of changes	Sum of Squares Ss	Degrees of freedom Df	Squares Mean MS	Significance level	Size effect η^2
Impulsivity	133.74	2	66.69	0.01	0.65
Error	71.26	24	2.97		
Aggression	1224.77	2	612.39	0.01	0.51
Error	1193.82	24	49.74		
Interpersonal Relations	2559.65	2	1279.82	0.01	0.60
Error	1739.27	24	72.47		

According to the results in [Table 3] and based on adjusted Bonferroni alpha (0.017), the effectiveness of group narrative therapy and play therapy to inhibit impulsivity with $F(2.24) = 22.52$, the effectiveness of group narrative therapy and play therapy in reducing aggression with $F(2.24) = 12.31$ and the effectiveness of group narrative therapy and play therapy on increasing the interpersonal relations with $F(2.24) = 17.66$ have been effective ($P < 0.01$). To accurately examine these mean differences, the results of multiple comparison test (K Matrix) are reported.

The post hoc test of comparing the mean effect of group narrative therapy and play therapy on impulsivity also shows that the mean difference (-2.93) is statistically significant ($P \leq 0.01$). Therefore, one can conclude that the effectiveness of group play therapy training on impulsivity is different from narrative therapy effect, and group play therapy has more affected impulsivity than group narrative therapy.

The post hoc test to compare the mean effect of group narrative therapy and play therapy on aggression also shows that the mean difference (-17.55) is statistically significant ($P \leq 0.01$). Therefore, one can conclude that the effectiveness of group play therapy training on aggression is different from narrative therapy effect, and group play therapy has more affected aggression than group narrative therapy.

The post hoc test to compare the mean effect of group narrative therapy and play therapy on interpersonal relations also shows that the mean difference (6.35) is not statistically significant ($P \geq 0.17$). Therefore, one can conclude that the effectiveness of group play therapy training on interpersonal relations is not significantly different from narrative therapy effect.

Table 4: Examining the differences of effects of group narrative therapy and play therapy on impulsivity, aggression, interpersonal relations

Groups	Variables	Means difference	Standard error	Significance level
(Play Therapy – Narrative Therapy)	Impulsivity	-2.93	1.09	0.01
	Aggression	-17.55	5.38	0.01
	Interpersonal relationships	6.35	4.46	0.17
(Play Therapy - Control)	Impulsivity	5.55-	0.84	0.01
	Aggression	-24.77	4.17	0.01
	Interpersonal relationships	16.23	3.46	0.01
(Narrative Therapy - Control)	Impulsivity	-2.62	0.91	0.01
	Aggression	-7.23	4.5	0.01
	Interpersonal relationships	9.88	3.73	0.01

Discussion and Conclusion

This study aimed to evaluate and compare the effectiveness of group narrative therapy and play therapy on inhibiting impulsivity, reducing aggression and increasing interpersonal relations. The main hypothesis was to investigate whether the effectiveness of narrative therapy on inhibiting impulsivity, reducing aggression and increasing interpersonal relations is different from group play therapy or not. Based on the results, we can conclude that the play therapy method has been more effective on variables of impulsivity and aggression in comparison with narrative therapy method. In the case of interpersonal relationships variable, these two treatment methods are not significantly different, and their mean differences are not statistically significant. Thus, to reduce symptoms of aggressive behaviors and control and inhibition of impulsive behaviors, play therapy interventions are more efficient than narrative therapy approach. However, in the case of interpersonal relations variable, none of the therapies have no advantage relative to each other, and the therapist chooses the desired treatment method based on the diagnosis provided by the references.

The results of this study are consistent with the findings of the following research: Baggerly and Parker studies (2005) based on the effectiveness of child-centered play therapy to treat the problems of boys in primary schools [27], Baggerly research (2012) based on the effectiveness of group child-centered play therapy on self-esteem, depression and anxiety of parentless children [28], Lindau

et al. studies (2012) based on the effectiveness of group child-centered play therapy on attitudes, knowledge and skills of students [29], Ray Blanco et al. study (2009) on the effectiveness of play therapy in reducing aggression in aggressive children [30], Kristin and Mini Whalen et al. research (2016) based on the effect of Adler play therapy in reducing externalizing behaviors and weak social skills [31], Rahmani study (2011) based on the effectiveness of storytelling on reducing children's reading disorders [32], Hassani, Farahbakhsh, & Shafiabadi (2015) based on the effectiveness of narrative therapy on reducing behavioral disorders in adolescents [33], Onyut et al. studies (2015) based on the reduction of PTSD symptoms due to war with play therapy [34], finally, Farzadfarz, Abdekhodae & Ghenaeechaman Abadi research (2015) based on the effectiveness of narrative therapy and play therapy on increasing attention and focus of children [35].

In general, play therapy and storytelling have been effective in reducing the symptoms of aggression, impulsivity and increasing skills in interpersonal relationships. Stories and plays provide time for excitement release and refinement and adjustment of thrill. These variables have been effective in reducing aggression and impulse control power in children. Also, narrative and play therapies improve communication skills and interpersonal and intrapersonal relations, and affect the individual behaviors covertly and overtly. In storytelling, children's become sympathetic with the tale characters. These characters are suitable models for children, which lead to increased self-confidence and externalizing positive and negative emotions.

Regarding the difference between group storytelling and play therapy, one can say that the participation of children in the process of playing was more than storytelling, the play therapist has well performed practices such as dough playing and playing with small animals fitted to the children's interests, and the diversity and participation rate have been effective in these interactions. Based on the results, it is suggested to use group play therapy approaches in the treatment of aggressive and impulsive children. In addition, the counselors and psychotherapists are recommended to use both narrative therapy and play therapy techniques for increasing self-confidence and improving and increasing interpersonal relationships. It is suggested to conduct this study on male and female subjects and compare them with each other. The results can be also used in treatment of children with psychological disorders such as conduct disorder and oppositional defiance disorder.

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Academicianship

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Abstract

Academicianship is a lifestyle that requires thinking not on several, but just on particular fields, such as to perform observation and experiments, follow up patients, educate students, produce new ideas and products, and write all of the results necessarily into the literature. Its duration takes the whole lifespan and it usually does not terminate with earning copious money.

Key words: Academicianship

Academicianship

What is academicianship? What does an academician do? Why do academicians take money from the taxes of citizens? What is the need of academicians for the society? What is the necessity of academicians? All citizens have the right to ask these questions of academicians. If we define some borders for academicianship, answers to the above questions will be given.

An academician is not a routine officer working between 08:00 a.m. and 17:00 p.m. As a scientist, an academician studies the whole day, the whole week, the whole month, the whole year, and the whole lifespan. While a farmer thinks about his plants, a herder about his animals, and a trader about his trade, a scientist thinks about his project during the 24 hours of the day, even for years. Ending of the thinking, observation, experiments, and follow up of patients about the projects actually means death of the scientist, since retirement is usually impossible in the process. Actually, a scientist cannot produce something new if he or she does not study for 24 hours of day in his or her mind. *'What is the value of a person? The value is the person's aim in their life'*. The proverb can actually define the significance of a scientist for us. An academician is a hunter. He or she always looks for new ideas, projects, and products for the human being and this process may take his or her whole lifespan since the new ideas and products are usually results of intensive thinking processes. *'Most people run after money or a comfortable life but scientists run after knowledge'*. *'God gives money to who God wants but God gives knowledge to who wants by himself or herself'*. These proverbs may also define the significance of academicianship.

If we can see significant differences between today and one hundred years before in the science, be sure about that there will be significant differences between today and one hundred years later again and the main actors of the process will be the scientists and academicians. But an academician does not mean a person living in his or her private world alone. Actually, academicianship means sharing of his or her knowledge, findings, and results with the students, colleagues, and population. Actually, knowledge does not have importance if it is not shared with others. On the other hand, scientists who are not sharing their knowledge with surroundings are not liked by students, colleagues, and society. Additionally, such scientists will not be able to produce significant ideas and products at the end of their whole lifespan since everybody knows that knowledge does not decrease instead increases with sharing. The scientists can see their mistakes, deficiencies, and misunderstandings by sharing their knowledge. In another definition, the scientists actually need students, colleagues, and patients to increase their knowledge, experience, and products.

Academicianship does not mean education alone. There must be some additional properties that are not found merely with teachers. Giving lectures, following up patients, performing experiments, and thinking on particular fields are found to be among some of the responsibilities of the academicians. Academicians have to improve themselves in their particular fields all the time. In other words, academicianship is an active process requiring a continuous improvement. Degrees in academicianship such as doctor, assistant professor, associated professor, and professor are given not by aging but by scientific products. So a person can be a Professor via a hard studying process in their very early years of life with many scientific products.

Writing ability is found among the major properties of the scientists. Writing has a significant role in development of human experience. Academicians must have the ability to write. An academician without the ability to write an original article, a case report, a letter to the editor, a review, a chapter, or a book about his or her interest field looks like a car without wheels. Both of them can not go further. Therefore academicians have to think about particular subjects, produce new ideas, educate students, follow up patients, and perform experiments but eventually they have to write all of their results as new papers in the literature. Without writing, all of the findings will go to the grave without any benefit for human beings. So a long lifespan of a professor will be meaningless without writing at the end. On the other hand, writing a paper about a particular issue may reveal several. In another definition, writing in a particular fields is the most effective way of improving issues. So writing is a necessity for development in science. *'Do not look at the talk instead just look at the products of an individual'*. This proverb can summarize what we hope to explain.

An academician means a scientist who has new ideas, not on several, but just on particular fields. Actually the ability of production of new ideas may even require a lifelong

thinking process on that issue. Thinking on a particular issue, following up patients, and performing experiments will eventually bring new ideas and products in front of us. A scientist can produce a limited number of products if he studies several fields but can produce a wider range of products if he studies a particular field alone. *'A person cannot be an expert on several issues but can be just on some issues'*. The proverb explains to us that the short lifespan of a human being will not be enough to be an expert in several fields.

The aim of academicians cannot be earning copious money. Academicians usually cannot earn even enough money for their normal lives everywhere in the world since usually earning large amounts of money is another ability of human beings needing several lifetimes to work on it. Actually, thinking about earning large amounts of money will break apart scientists' studies. So scientists will not be able to follow up patients, perform experiments, and think on the particular field during 24 hours of their day. Earning a large amount of money therefore and finding new products for human beings cannot be found at the same time, by the same mind since both of them need different ways of working and these cannot be achieved by the same individual at the same time. For example, Edison did not develop the light bulb to be rich or to earn much money.

As a conclusion, academicianship is a lifestyle that needs to devote thinking not on several but just on particular fields, and to perform observations and experiments, follow up patients, educate students, produce new ideas and products, and write all of the results into the literature. Its duration takes a whole lifespan and it usually does not terminate with earning copious money.

Most of the world's great advances in the sciences and medicine during the last two centuries have been through academic endeavour. Political leadership has been patchy in advancing civilisation, at best, but academia, divorced from the politics and the pecuniary interests of each generation has continued to lead humankind toward a brighter and more equitable future.

Leisure and Tourism as a Treatment in Iran: A Sociological Appraisal

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Abstract

The present article explores how the people of Iran who have been prone to increasing socio-cultural change in the past few decades, are exposed to leisure and tourism in order to be spiritually rehabilitated. As previously found, one of the ways to refresh and reactivate people in a given society is to facilitate tour and travel for them. Similarly, changing economic conditions for a large portion of the people on the one hand, and better communications and means of transportation have all contributed to boosting leisure and tourism in the country. It is worth noting that Iran's literacy rate which has been enhanced in an unprecedented manner, has widely affected leisure and tourism at national level. Moreover, the government is also encouraging tourism in order to further activate the economic cycle. This article also explores how more and more people are motivated to go on leisure and tourism to further explore various cultural and tourist attractions of greater Iran from coast to coast. Modern social networks have also played a major role in extending leisure and tourism for different classes of people. The article proposes that improved policy-making positively affects the industry.

Key words: Leisure. Transportation. Economic conditions, Quality of Life. Cultural change.

Introduction

Iran with a population of 79.5 million, and 72 percent urban population in 2016, is more than ever before exposed to leisure and tourism (WPDS, 2016). Not only the urban, but the rural people too go more frequently on certain types of leisure and tourism including pilgrimage as compared with the past. Many people involve themselves in leisure and tourism as a spiritual and psychological medicament. The complicated and changing life of the current time needs increasing leisure and release which could be found in tourism.

The main objective of the paper is to reflect the concepts of leisure and tourism, their mutual interactions, and their inter-relationships with each other. Throughout the paper, various dimensions of leisure activities, and emergence and development of tourism will be addressed. We will also witness how new and changing frames of socio-economic life in modern times have motivated development of leisure and tourism. The paper explores how leisure involves the substitution of a preferred activity that provides pleasure by satisfying the internalized values, free of the everyday pressures of social obligation (Sigler and Chaudhary, 2000), and that is materialized by tourism as intended in this research. Both leisure and tourism highly affect the quality of life. The paper is an introduction to, and overview of, the emergence of leisure demand and tourism industry, including discussions of their growth and motivations. The features will highlight and reflect the crucial issues related to phenomena. The paper aims at placing special emphasis on issues related to the role of science and technology in the development process of leisure and tourism. It will come to the conclusion that the employed gain benefits from leisure and tourism. Leisure being the antithesis of work, is complementary to work. The research also finds out how changing socio-economic circumstances have enhanced "leisure tourism" such as holidays and sports. Data included in the present paper will demonstrate as to how a person's sex has influence on the choice of leisure activity.

The two concepts of leisure and tourism are complementary to each other. Leisure normally relates to recreational activities during the non-work time, where there is no compulsion, and where there is autonomy and control over what is being done. It is also called "discretionary time". Like work, leisure activities take place in a society at certain times, and in particular locations such as the cinema, the theatre, the home, sport centers and so on (Bilton, et al. 2002). Leisure activities have grown especially in the last 50 years everywhere including Iran, as a result of a number of factors. These include: a rise in the disposable income of many workers; a reduction in the hours worked per week; holiday pay; commercialisation of leisure, and a contraction of working life (Bilton, et al. 2002). All the above points implicate the Iranian population as a result of globalization of patterns of values relating to leisure.

The growth of leisure time does not mean that everyone is in a position to take it up. For example, the unemployed find it particularly difficult to convert free time into leisure, as they have reduced financial resources, and restricted social contact, combined with a sense of lost identity, self-esteem and personal status. Paid work, then, is central to one's enjoyment of leisure.

"Leisure" is a misleading term because it can include rest of recreation, or self-development. It is usually seen as the antithesis of work. Therefore, if you do not have work, you do not have leisure either. Indeed, to speak of the unemployed as having ample leisure, would be regarded by them as inappropriate. However, imposed leisure is neither rest, nor recreation, nor development (Handy, 1995). The present demographic structure of Iran shows that 28.9 percent of the 15-29 age group are in search of paid work, but cannot get it; so, leisure activities are meaningless to them (Statistical Centre of Iran, 2002). In other words, due to inadequate full-time employment for everyone in this age group, their unemployment represents in effect a form of enforced leisure.

Tourism on the other hand, as the world's biggest industry, is usually known as the other side of the leisure coin. The author introduces the reasons why people travel, and defines what is really meant by "tourism". Tourism had grown dramatically since the end of the Second World War, to become one of the world's fastest-growing industries, offering a wide variety of employment opportunities as well. Throughout the world, the dominant attitude towards tourism is economic, and the majority of tourist organizations also have the same economic attitude towards the phenomenon, yet, tourism from the viewpoints of the tourists themselves, as well as the cultural organizations, is a cultural issue (Ettelaat, 1993). However, such a cultural feature would help in promoting the quality of life of the leisure seekers in general. Likewise, tourism, its development, features of tourism, its structure and progression aims will be purposed in the context of the present article.

Tourism is one of the world's biggest industries with more people than ever before travelling in their own countries and exploring new destinations abroad. This phenomenon

owes much to the development of communications. Tourism covers many different sectors such as tourist attractions, public sector bodies such as tourism, travel agents, tour operators, accommodation, catering, and transportation (Youell, 2000). Tourism as a temporary, short-term movement of people on destinations outside the places where they normally live and work, and as activities during their stay at these destinations, is multi-purpose.

Tourism could also be termed "leisure tourism" when undertaken as holidays, sport, education, culture and religion. It may be for the purpose of "visiting friends and relatives", or it may eventually happen as "business tourism" such as business meetings, exhibitions and trade fairs, conferences, conventions and so on.

Quality of Life

Quality of life as a concept encompasses a huge agenda from the state of the environment to personal growth, health, economic rewards, satisfaction in life and psychological well-being. However, clean air, a quieter countryside, personal safety, leisure and tourism all contribute to our quality of life (Cahill, 2002). In today's modern life, we can argue that there is an overall loss for us as well as the society if our leisure and touring needs are not met.

Quality of life has a subjective element. One person's view of what constitutes quality of life may be very different from another's. Realism also demands, however, that we acknowledge that in a consumer society our sense of subjective well-being and our needs are influenced to a greater or lesser extent by advertising and other techniques of persuasions including leisure and tourism. Obviously, leisure participation and satisfaction are important determinants of quality of life (Leitner and Leitner, 2004).

Profiles and Challenges

In a large country like Iran with an area of 1648000K2, and a population of 79.5 million in mid 2016 (WPDS, 2016), one would imagine there are various climatic conditions, historical and cultural heritages and sites of which many, including Iranians, are not aware. Local leisure travellers may still be surprised by some quite "unknown" places and attractions, mainly because they have not been well identified by the people. Iran is connected to the Caspian Sea in the north and Persian Gulf in the entire belt of the south. More people use the northern resorts because of the availability of facilities and the modest climatic conditions. High costs of travelling do not permit the middle and lower middle classes to travel. Moreover, one can find a lot of natural and ecological resorts in Iran, but they are not highly used by the locals as leisure and tourism destinations. Though there are a lot of mountains in Iran, only few professionals happen to pass by.

The government has advertised in recent years to enhance travel and tours. Lack of purchasing power of the general public does not easily allow it to happen. To earn foreign exchange, foreign tourism is highly publicized

and welcome. So far as the Iranian southern resorts are concerned, many people prefer to visit Kish island in the south of Iran for the special facilities, low prices, and the open social milieu available there. That is why many Iranian holiday-makers choose the area.

Need for Sports vs Cultural Change

Cultural change extensively appearing in Iran, in general, is followed by new needs including leisure and sports. Cultural change in various dimensions and in different respects based on development of new institutions, has surprisingly happened to Iran in recent decades, the same as in many other developing societies. Such a phenomenon has been followed by new expectations, within which the need for leisure and sports is of very high priority. In other words, change in one dimension of a cultural phenomenon usually accompanies other transformations as well (Macionis and Plummer, 1998).

On the other hand, the current young population structure of Iran with special reference to urban areas, contributes to the immediate need for leisure and sports facilities to be provided. Under such demographic circumstances, the "disguised need" for sport is appearing more than ever before. Providing for it would contribute to further individual and social health, national unity and integration. As a result of cultural change and development of the youth, their homogenization vis-a-vis value system, behavioural patterns, expectations, provision of leisure and sports among them appears inevitable. In the absence of an infrastructure the scenario will be ever more complicated and controversial.

If we go back five decades when modern sports had not come into light as today, and when the sports were played more by the professional adults in Iran, "Zurkhaneh" (a traditional type of gymnasium in Persia), was mainly used; and there were a few of them in every city where only the males could attend to play (Dehkhoda, 1994). Due to the dominance of modern Western sports, traditional "Zurkhaneh" is fading away in sport and leisure scene in Iran and being replaced by modern sports such as aerobics for both sexes.

Development of Leisure and Tourism

Leisure and tourism have grown since the 1950s due to the following factors: changing socio-economic circumstances including increasing car ownership, more leisure time and higher income levels; developments in technology including improvement in air travel industries, computer technology, growth in domestic and international tourism, and people becoming more educated; product developments and innovations such as the development of seaside resorts, more road-building in countries like Iran, growing demand for travel and tourism products and services, more division of labour, more need to strengthen and develop the industry to create more opportunities and sources of income. Changing and increasing consumer needs, expectations, fashions and the like have all helped in the development of leisure and tourism.

However, though social change has led leisure and tourism needs, sociologists believe that a gap is created between the people's expectations due to social change and their actual conditions, namely, what is known as "relative deprivation" (Abeles, 1976). Such a controversial situation is observable in society.

Leisure and tourism play a prominent role in bringing about further developments in quality of life. From the economic point of view, productivity being an end, needs the means of health, promotion of health at work place, promotion of consciousness and motivation. However, the materialization of all these is dependent on trends of leisure and tourism (Economic and Planning Under-Secretary, 1995) (EAPUS).

Methodology

The present paper explores a wide range of questions about the dynamics of social change, matters of social policy and broader theoretical issues associated with the development of the issues of leisure and tourism. It has tried to use an appropriate conceptual framework most relating to all-round data collection to complete the current research. The researcher has tried to base his research on reliable and valid forms of representative findings to reach the intended objectives.

The method of research used in the present study is of synthetic type in which through exposition, namely, the process of combination of parts into a whole. The method includes use of published books, journals, and reports. Some information was also collected from appointed informants through direct interviews. Information collected was arranged and described to assess quality of life in terms of leisure and tourism based on theoretical frameworks.

Socio-economic planning in various dimensions is very important for a country like Iran, and it must be achieved through the use of various resources in the country. Similarly, social research having a wide field and scope must be followed in an all-round manner (Raj, 1990); and one of which is "leisure activities and tourism", in the present study.

Theoretical Analysis

Rapid changes in technology that occurred in the 20th century, have affected the nature of leisure activities. Increased alienation at work, with deskilling through new technology, has meant that many people are trying to achieve satisfaction and creativity outside work through creative leisure pursuits (Browne, 1996). Leisure has itself become a highly organized and commercialised business. The mass production methods employed in the manufacturing industry have been applied to leisure activities, such as the mass production of stereo and video recorders to cater for the products of the record and music industries. Mass entertainment such as spectator sports, televisions, the cinema and video, the package holiday and the like are known as developments in leisure activities.

Social class differences in leisure have been exaggerated, but difference in income, car ownership, educational qualifications, and working hours mean that middle class and working class people often follow different leisure activities. For example, they are likely to read different books, magazines, and newspapers, watch different TV programs and films at the cinema, join different organizations, eat and drink in different pubs and restaurants, and travel to different holiday destinations. Some leisure activities are denied to the working class simply because of the high costs involved (Browne, 1996).

The development of mass tourism often requires cultures, cities, and regions of countries to rethink their own unique identities, and then package and promote them as products which hopefully will attract people from other cultures (Cohen & Kennedy, 2000). Tourism has compelled us all to become global performers, putting on presentations designed to project our own cultural heritage. This has led to a re-evaluation by some sociologists concerning how we should understand what is meant by "culture and tradition".

On the other hand, Greenwood (1989) suggests that "international tourism involves the largest scale movement of goods, services and people that humanity has perhaps ever seen certainly outside wartime" (P.171). The growth and development of which is so that few alternative industries can match such sustained rates of growth.

Over the past fifty years, the leisure service delivery paradigm has been characterized by several approaches. They include: community service development; marketing and commercial, humanitarian and humanistic; benefits based, social action; compulsory competitive tendering and best value (Lobo, 2002). Among the above, community service development is truer in Iran. Leisure is viewed as having a determining impact on quality of life. It is regarded as a vital contributor to quality of human functions and duties.

The concept of leisure can be used to refer to some combination of time, activity and experience; time free from work and other necessary activities such as eating and sleeping; "play" activities which are intrinsically rewarding (Kuper and Kuper, 1996). Leisure is also differently experienced and unevenly available, namely, people with jobs have more earlier demarcated leisure time and activities than those with domestic responsibilities, whose "work is never done".

Islamic and Cultural Tourism in Iran

Iran has witnessed religious and cultural movement of tourists in the country in the last few decades with special reference to the development of means of communications and transportation. Many sites and cities in which historic monuments and the holy shrines of Imams and poets are situated such as Isfahan, Mashad, Shiraz, Qom, Hamadan and Kermanshah are highly active in receiving domestic and international tourists. They are a

wonderland for tourists and pilgrims. The holy shrines of Imam Reza in Mashad, Hazrat Masoomeh in Qom, and Shah-e-Cheragh in Shiraz as Islamic cities are of prime importance. They are frequently visited by domestic as well as foreign Muslim Pilgrims. Similarly, shrines of great poets like Saadi and Hafiz in Shiraz, and Avicenna (Abu Ali Sina) in Hamadan, are visited by the domestic and foreign tourists. They have been the sites of cultural and economic significance over centuries, and more frequently in recent decades. They constitute vital tourist regions in their landscape, rich heritage in culture, art and architecture.

Such sites and regions speak of the history, civilization, and the socio-cultural conditions of Iran. There is a growing number of Muslim tourists from the Middle East, south, central, and even east Asian countries coming to visit these Islamic and cultural monuments. The Government of Iran has perceived the emerging sentiment of these visitors and emphasised to improve the Muslim sites by providing adequate infrastructure amenities around and towards the monuments more according to the feel and taste of the tourists. However, production of handicrafts and souvenirs of superb quality and style has been well developed in these cities especially in Isfahan.

However, a significant part of the influence of Western culture on Islamic societies comes through leisure time activities: watching television, using the internet, playing and watching sport, hearing Western music, are obvious examples of this cultural impact (Martin and Mason, 2002). Such trends usually lead to socio-cultural controversies in Iran.

Planning is necessary for Iran's balanced tourism growth and development. By implementing sustainable development planning in the places of cultural tourism, the country would receive a sizable share of domestic and foreign tourists, and more foreign exchange. Tourism planning is not related only to the physical development of the site or conservation of deteriorated historic monuments, but needs the cooperation, contribution, and active participation from the broader community.

Future Development

To reach social development, providing backgrounds of leisure is necessary, and for that purpose, suitable planning and creating adequate possibilities are essential, especially for the adolescents to use their leisure times (Nejati, 1997). However, leisure is not only necessary for the elderly youth, but it needs to be specified for the elderly too. Thus, reemergence of some old leisure tendencies often occurs for some elderly people. For example, old women may return to their youthful hobbies due to their abstinence for years because of child rearing, domestic responsibilities etc. They may again resume painting for example, in their old age as a leisure activity. (Shoarinezhad, 1994).

Similarly leisure pursuits provide the adolescents with opportunities to release their energies, and consequently

attain creativity and restoration. If these opportunities are wasted, and if thereby the adolescents are not motivated, ground for their deviation is provided (Sharafi, 1993).

However, we see that leisure and tourism have developed very rapidly in the past half century to become one of the world's biggest industries. But, what of the future? Will this dramatic growth be sustained, or will the bubble burst? Most industry experts and professionals agree that leisure and tourism will continue to grow, but in different ways and depending on various conditions. The following factors will be responsible on the issue (Youell, 2000, P.14).

1) Social Factors: Demographic trends and social change will have important impacts on the future development of the industry in qualitative and quantitative terms in the new millennium. The fact that people in the West are living longer, the fall in the number of young people, the increase in one-parent households, more couples choosing not to have children, or to delay having children, or to delay having children until later in life; all point to the fact that the type of leisure and tourism products and services will change radically. Such change will affect Iranians too.

2) Political and Economic Factors: On a global scale, the late 1980s saw historic world developments with countries emerging from State control and embracing the Western "market economy". However, any change in value systems would create further demands for leisure and tourism. Events like these, creating of the European Union, the Eurozone and so forth___ all have had impacts on leisure and tourism, and in most cases, they have been eased, such as exchange of visits that has increased more than ever before.

3) Cultural and Environmental Factors: Since the 1980s greater environmental awareness and health and fitness had emerged and been taken seriously. These factors have had important influences on leisure, tourism and recreation. However, what is known as the so-called "green issues" have emerged and are currently high on the agenda. All these have changed the attitudes towards leisure and tourism.

4) Technological Factors: Leisure and tourism have always made extensive use of new technology. For example, developments in transportation make extensive use of new technology. On the other hand, while the extent of information technology "IT" has highly developed leisure and tourism, implication of war hinders it.

Leisure and Tourism Scenario in Iran

Leisure and tourism, highly in demand, are rapidly growing the country. While the first (leisure) is strengthening the second (tourism), the second also develops the first. The two in a combined form have created a sort of competition among the different classes of people in the society. Higher incomes, more leisure time, and giving priority to it indicate that tourism is expanding. Also, ever changing lifestyles, and the new value system, increased overseas

visits, and increasing number of youths all indicate that the tourism industry will continue to further expand. At the same time, leisure activities and demand for that too, are on the increase.

Iran as a modern society, like many others, is expected to provide her citizens with the opportunities to meet their needs so far as their leisure is concerned. For some people such needs are fulfilled, while for many they are not satisfactorily responded to. Hence, the tourism industry affects us not only because of its tremendous size, but also because of the crucial role it plays in improving the quality of life for millions of people.

In such an important industry as tourism, the potential for jobs is enormous. As the industry is becoming more complex, it demands the services of well trained, enthusiastic and responsible individuals (Zulfikar,1998). The future growth and competitive strength of each of the elements that make up tourism depends on how well each entity cares for the safety and comfort of the leisure-seekers, or the value and satisfaction they get from their money, and on how well their expectations are met.

For materializing sustainable development, and progress of the Iranian society, industrialization requires leisure and tourism programs. However, with regard to the "key role" of industrialization in promoting human material potential, and efficiency in all the economic sectors, industrial development is central and key to economic development (Mashayekhi, 1995). All such developments are dependent on achieving leisure and tourism.

Tourism creates both positive and negative effects in the destination country or region. Thoughtful policy-making and planning can do much to minimize or even remove the negative effects. Tourism as a response to leisure demand, can be a very positive means of increasing the economic, social, cultural and environmental life of a country or region. The major issue now is for the politicians, planners and developers, to rise to the challenge and create responsible tourism in an integrated manner without damaging the physical and cultural environment of the destination.

Because of the eco-system difficulties especially in the urban areas, sustainable leisure and tourism planning are essential. Such problems currently observable in the Third World countries such as Iran, are the same as those that have emerged in the Western countries in the beginning of the 20th century. Such problems and hazards include air pollution caused by domestic as well as industrial units, refineries etc. (Arbab, 1997).

Another view reflects the fact that though the current wave of the industrial revolution which has brought "electronics" into our life, is very promising, yet, it carries negative effects such as the weakening of family networks too (Zangeneh, 1994). However, the entire scenario creating new expectations and needs, requires leisure and tourism programs.

Due to the increasing social, economic and cultural changes occurring in the society, with special reference to the future, we may expect the construction of an increasing number of elaborate leisure complexes, offering a complete range of leisure activities on the one site (Calvert and Calvert, 1992). However, tourism also requires an extensive infrastructure. Tourism now being the mainstay of the economies of developing countries such as Thailand, Malaysia, Singapore, and the like, must find the same stand in Iran too. Socially speaking, the tourism industry must not be heavily concentrated on a few key attractions in a limited number of places such as Isfahan, Shiraz and Tehran. It must spread in various places and cities to create economic upheaval and change.

Like all products, the tourism product needs marketing. In fact, marketing for tourism is more important than for manufactured products since tourism products are highly perishable (Seth and Bhat, 1996). For example, a seat in the plane, or a room in the hotel not used today is a total waste. Thus, there is an element of urgency in the marketing of tourism. It is an intangible product. It can neither be stored for future use, nor can it be moved to be shown to the consumer or leisure-seeker - the leisure-seeker has to come to it, to feel it.

Table 1: Number of Households According to State of Travel, Spring 2013

State of Households Travel	Number of Households
Total of Households	22,227,000
Households Having Travel	11,694,727
Households without Travel.....	10,532,273

Source: Statistical Center of Iran, 2013.

Table 2: Number of Internal Travels without Nightly Stay by the Main Objective of Travel, Spring 2013

Main objective of Travel	Number of Travel
Total	29,520,040
Travel and tour	12,734,954
Visiting Friends and Family.....	7,163,538
Pilgrimage	2,725,396
Treatment	3,491,057
Other Objectives	3,405,096

Source: Statistical Center of Iran, 2013

Table 3: Twenty Visited Cities According to the Travels Done by Type of Travel and the Number of Nights Stayed, Spring 2013

City	Number of Travel			Person's Nights Stayed
	Total	Without Nightly Stay	With Nightly Stay	
Total	73,823,151	35,507,063	38,316,088	164,522,233
Mashhad	3,927,101	495,448	3,431,652	15,330,558
Tehran	3,461,796	957,691	2,504,105	12,478,531
Rasht	2800995	2,070,337	730,658	2,888,326
Shiraz	1,868,482	563,986	1,304,496	5,333,794
Isfahan	1,691,111	482,857	1,208,254	5,219,888
Ghazvin	1,530,013	1,100,716	429,297	1,117,414
Qom	1,503,460	655,953	847,507	2,550,075
Sari	1,451,231	797277	653,954	1,909,034
Kerman	1,085,976	432,156	653,820	1,894,790
Bandar Anzali	1,011,816	784,504	227,312	842,425
Binalod	960,894	923,863	37,030	90,350
Kashan	944,624	546,825	397,798	1,135,666
Lahijan	895.062	653.850	241.212	829.704
Arak	842.939	348862	494.077	2.062.537
Ahwaz	815.769	283.386	532.283	3.939.958
Chalous	805.212	312.611	492.602	1.830.427
Hamadan	785.427	274.343	511.084	2.519.625
Gorgan	733.241	388.000	345.241	1.285.412
Astara	705.985	370.291	335.694	864.804
Kermanshah	683.727	229.142	454.585	1.699.351
Others	45.318.287	22.834.961	22.483.326	98.699.563

Source: Statistical Center of Iran, 2013

Conclusion

Leisure and tourism are considered as activities essential to the life of the Iranian nation, because of their direct social, cultural, educational and economic benefits. The development of leisure and tourism being highly linked to the social and economic development of nations, it can only be possible if humans have access to creative rest and holidays, and enjoy the freedom to travel within the framework of free time and leisure.

Though leisure and tourism were not in satisfactory progress during the war in the 1980s, yet, since then, there have been considerable developments, and optimistically the positive effects of which are taken for granted. Moreover, the multi-dimensional change leading to new expectations and needs require leisure and tourism to be developed to meet the increasing and emerging wants of all people regardless of their race, class, creed, and religion with special reference to the young generation of Iran. Leisure perspectives also indicate developments in various sectors both among males and females.

As far as Iran is concerned, her leisure and tourism require the most active attention because of the presence of young population structure who have not adequate income to meet their growing needs. In the meantime, the same attention should be paid to the handicapped. However, the rapid transition and swift development as occurring not only in technology, information technology, in social structures and relations, and in behavioral patterns of Iran, all have had profound effects on leisure, and tourism needs and expectations.

Until recently, Iran did not pay enough attention to the importance of tourism, but, in recent years she has come to tap the tourism potential. The contribution of tourism in terms of foreign exchange accruals is known as "invisible" in the balance of payment data. However, tourism and private transfer could emerge as the major benefactors to the nation by way of their contribution in terms of net foreign exchange inflows. Iran, potentially being a leading tourist destination, needs more planning and management in the context. Eventually, we can conclude that tourism can be a very positive means of promoting the economic, social, cultural and environmental life of the country. It must be added that religious and cultural tourism has also come to be recognized as one of the main sources of domestic tourism in the country. In general, it can promote the quality of life of different social groups, and could be used as a means to treat patients.

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