

Awareness of governmental primary school teachers about osteoarthritis

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Abstract:

Background: Osteoarthritis is degenerative disease most commonly discharge limited mobility and aches. General goals to assess the awareness of teachers of primary school about osteoarthritis in Al-Mukalla district.

Methods: Across sectional study was conducted to identify the awareness of teachers of primary school about osteoarthritis in Al-Mukalla district from November 2014 to May 2015.

Result: The study showed that 75.7% of teachers have clear concept about disease, while 42.6% are aware of age exhibition to the disease. As the majority of teachers believe that the increase of weight is high risk factor of disease, and 88.3% think that the joint pain is the most prominent symptom of disease and 84.5% believe that osteoarthritis (OA) affected the daily activity. 33.3% consider that regular sport is an effective management of disease.

Conclusion: The teachers have adequate information about the concept of OA, but they have insufficient knowledge about risk factor, symptoms and management of OA. TV and internet are among most source of information for teachers regarding OA.

Key words: Awareness, Osteoarthritis, teachers, primary school, Al-Mukalla district.

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الخلاصة :

الخلفية: التهاب المفاصل التنكسيه هو المرض الاكثر شيوعا الذي يؤدي الى محدوديه الحركة والتنقل. الاهداف العامه للبحث لتقييم وعي معلمي المدارس الابتدائيه حول التهابات المفاصل التنكسيه في مديرية المكلا.

الأساليب: اجريت دراسته مقطعيه لتحديد وعي المعلمين في المدارس الابتدائيه حول التهاب المفاصل التنكسيه بمديرية المكلا للفترة ما بين نوفمبر 2014 الى مايو 2015م.

النتيجة: اظهرت الدرسته انه 75.7% من المعلمين لديهم فكره واضحه عن المرض بينما 42.6% لديهم ادراك حول العمر المتوقع لهذا المرض، بينما الأغلبيه من المعلمين يعتقدون أن زياده الوزن تعتبر من عوامل الخطوره العاليه للمرض ، 88.3% يعتقدون أن الام المفاصل هو أكثر الاعراض الدائمه للمرض ، 84% يعتقدون أن التهابات المفاصل التنكسيه تؤثر على النشاطات اليوميه للمريض، 33% يتوقعون أن ممارسه الرياضه بانتظام هي الطريقه الاكثر فعالية لمعالجه المرض.

الإستنتاج: المعلمين لديهم وعي كافي عن مفهوم التهاب المفاصل التنكسيه، ولكن ليس لديهم المعلومات الكافيه عن عوامل الخطر او الاعراض او طريقته العلاج ، التلفاز والشبكه المعلوماتيه هي من أهم مصادر المعلومات لدى المعلمين حول التهاب المفاصل التنكسيه.

الكلمات المفتاحية: الوعي، التهاب المفاصل ، المعلمين، المدارس الابتدائية ، منطقة المكلا.

Introduction:

Osteoarthritis is the fourth leading cause of Year Lived with Disability (YLDs), accounting for 3.0% of total global YLDs (1,12,19,23). It also accounts for the decrease in activities of daily living (ADL) in elderly dependent population in the community. It is the most common joint disease, which condition of synovial joints characterized by focal cartilage loss and an accompanying reparative bone response (2).

There is a number of Arthritis, in fact more than 100 are known as well as documented, but the most common is degenerative Arthritis known as Osteoarthritis. Osteoarthritis is also sometimes called slip on Arthritis, as a result of the common reasons behind this disease (3,19,23).

Over - time, daily activities, injuries, and certain high their own ankles sports or activities cause the joints within your body to wear down, typically as the result of loss of cartilage. In such a case, the joints rub together and straightforward movements can become vehicles painful. The most common type of Arthritis, Osteoarthritis, typically affects joints who will be weight bearing the classic, including the knees and hips. However, any joint can be affected by the disease and it's quite for the disease accessible in the hands and upper thighs (3,9,14).

Osteoarthritis has a multi factorial etiologies, which occurs due to interplay between systemic and local factors. Osteoarthritis affects all ages. The etiology of this debilitating disease in which several responsible genes are linked for its occurrence. Sports participation, injury to the joint, obesity, and genetic susceptibility predispose adolescent athletes to the development of premature osteoarthritis. Previous knee trauma increases the risk of knee OA 3.86 times . Old age, female gender, overweight and obesity, knee injury, repetitive use of joints, bone density, muscle weakness, and joint laxity all play roles in the development of joint OA. Determination of risk factors particularly in the weight-bearing joints and their modification may reduce the risk of OA and prevent subsequent pain and disability (4,5,9,14,15). Mechanical forces exerted on the joints are a significant cause of OA and one of the most modifiable risk factors as determined by body BMI. Female sex, lower educational levels, obesity, and poor muscular strength are associated with symptomatic disease and subsequent disability (6,15).

The Symptoms of this kind degenerative disease most commonly discharge limited mobility and

aches. Morning and night condition, which can last no less than half of an hour or so, is quite common and it's often the worse overnight. Activities can aggravate this excellent joint pain (3,10,11,21).

Treating Osteoarthritis, along with other types of Arthritis, usually is focused on making life easier with the patient, as the results of the disease are not reversible. So, pain gout, reduction of swelling, and reducing inflammation might be a big part of Treatment. Having said that, it is also sometimes feasible to keep the disease which represent getting worse, so computer system courses an important factor when it's in Treatment (3,10,11,13,17,18). This type of Arthritis is one of common among seniors and can have a major impact on their health, as well as their daily activities (3,14,21).

Osteoarthritis affects more than 21 million Americans, and is a leading cause of disability in the U.S. It frequently affects the middle-aged and older population, involving various sites such as the neck, lower back, knees, hips and fingers. Individuals with symptomatic knee OA, experiencing pain and loss of function comprise approximately 10% of persons over 65 years of age. While joint injury is widely accepted as a contributory factor in knee OA, past efforts to quantify the risk have produced a broad range of estimates (7,10,21)

This is important topic and lead to major disability and education of patients through "patients education programs" about their condition increase knowledge and improve compliance, change behavior and lead to decrease the complication, also there's no adequate study about osteoarthritis in Al-Mukalla city; a from all that, we aimed to accesses awareness of governmental primary school teachers about osteoarthritis during 2014-2015.

Methods:

Across sectional describe study was conducted to identify the awareness of osteoarthritis among governmental primary school teachers in Al-Mukalla district during 2014-2015.

The sample size was calculated by using the following formula (8) with proportion of characteristics (p=50%):

$$\text{Sample size (N)} = \frac{PQ}{(D)^2} (Z)^2$$

The sample size required 384 Teachers. We added 10 % (=38) to sample for drop out ..., so the final sample size equal 384 + 38 =422 Teachers.

The sample was selected by multistage sampling method. The sample size (422 teacher) was chosen proportionally among randomly chosen 25 governmental primary schools out of the total number of the total number of governmental primary school.

Data collection & tools:

The data was collected by the pre-tested self-administered questionnaire which included the following:

1. Personal data. (The name not included).
2. Questions regarding awareness about concept and risk factor of osteoarthritis.
3. Questions regarding awareness about clinical symptoms & complications of osteoarthritis.
4. Questions regarding awareness about symptoms & complications of osteoarthritis.

Data Analysis:

The data was checked for completeness, then analyzed by using descriptive statistical tools (frequencies, percentage). Independent t. test and one away ANOVA test were used to test deference between means. The level of statistical significance will be p<0.05. The mean and standard deviation (SD) will be also calculated for continuous variables. And data was presented in Tables and graphs.

Results:

Three hundred ninety four teachers were selected to participate in the study. The mean age was (39.6, ±sd: 3.7 years) with (50.5%) of them were 40 years old or more, (59.6%) of them have Bachelor degree, (23.1%) with diploma and (17.3%) have ended secondary school (Table.1).

Table 1: The socio-demographic characteristics of study population:

Variable	Frequency	Percent
Gender	Male	147 (37.3%)
	Female	247 (62.7%)
Age	Below 30	41 (10.4%)
	30-40	145 (39.1%)
	Above 40	199 (50.5%)
Educational level	University	235 (59.6%)
	Diploma	91 (23.1%)
	Secondary	68 (17.3%)
Total population	394	100%

Table (2) showed that half of participants knew the concept of osteoarthritis, and about (70.3%) knew that osteoarthritis is a chronic disease, but (57.4%) said that osteoarthritis isn't infectious disease, while (20.8%) said osteoarthritis doesn't affect joints.

In this table (40.6%) of teachers knew that increase of age is the most risk factor of osteoarthritis followed by increase in weight (18.7%). About quarter of teachers thought that smoking doesn't cause osteoarthritis, and (75%) thought that masturbation is risk factor for osteoarthritis.

Most of teachers (88.3%) knew that joint pain is not a symptom of osteoarthritis, while (50.5%) said that osteoarthritis pain increase with movement. regarding the complication (84.6%) thought that osteoarthritis affects the daily activities. In this study about (33.3%) knew that regular sport decrease the occurrence of osteoarthritis.

Table 2: TAwareness of teachers about concept, clinical picture, risk factors and management of osteoarthritis:

Statement	Frequency (%)
1. Awareness about concept of osteoarthritis:	
Concept of osteoarthritis	298 (75.7%)
Osteoarthritis chronic disease	277 (70.3%)
Osteoarthritis infectious disease	226 (57.4%)
Joint effected	312 (79.2%)
2. Awareness clinical picture of osteoarthritis:	
Joint pain	348 (88.3%)
Pain increase with movement	199 (50.5%)
Limitation of movement	269 (68.3%)
Loss of balance	267 (67.8%)
Feel of bad health	268 (68%)
Rigor of joint	267 (67.8%)
Effect of daily activity	329 (84.5%)
3. Awareness of about risk factors of osteoarthritis:	
A lot of walk	88 (22.3%)
Side effects of drugs	96 (24.4%)
Smoking	97 (24.6%)
Increase of age	226 (42.6%)
Osteoporosis	188 (47.7%)
Food	181(45.9%)
Increase weight	310 (78.7%)
Masturbation	59 (15%)
4. Awareness about management of osteoarthritis:	
Regular sport	262 (33.3%)

(Table.3) Shows that there was no significant difference between male and female the mean scores of awareness, (P=0.955).

As shown in this table, the mean scores of awareness regarding age was statistically significant (P=0.046). The highest mean scores (0.61±0.14) was among teachers who were at age group 40 years and above. After that those at age group (30-40 years) were with mean scores (0.59±0.15). The last group was below 30 years with mean scores (0.54±0.14).

In this table, also there was no significant difference in awareness mean scores regarding education level (p. value = 0.208). The highest mean scores of awareness was among teachers completed the secondary school (0.62± 0.12), while the lowest mean scores was among teacher who completed diploma (0.58 ±0.12).

Table 3: TAwareness of teachers about concept, clinical picture, risk factors and management of osteoarthritis:

Characteristics		Mean scores of awareness	SD	p- value
Gender	Male	0.59	0.15	0.955*
	Female	0.59	0.15	
Age groups	Below 30	0.54	0.14	0.046**
	30-40	0.59	0.15	
	Above 40	0.61	0.14	
Education level	University	0.59	0.16	0.208**
	Diploma	0.58	0.12	
	Secondary	0.62	0.12	

N.B:* Independent T test (P<0.05 is considered statistical significance).

N.B:* * One way ANOVAs test (P<0.05 is considered statistical significance).

Figure (1): explores the source of information among teachers about osteoarthritis. It shows that most important source was television (35%), followed by internet (33%) and books (30%).

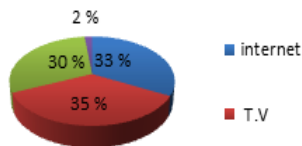


Fig.1: distribution of governmental primary school teachers to their source of information about OA.

Discussion:

We expect that the study results would change from a country to another or even in the same country re-

garding the health educational level and other factors. But, we unfortunately couldn't find any similar studies to compare with. We also expect the same results will be lower if the study was conducted among another population because the teachers are expected to be well-educated.

A high percentage (75.7%) know the most accurate concept, which is chronic disease. That means that most of the teachers have right concept about disease and the real awareness level is high when is compared with problem magnitude.

About (70.3%) think that osteoarthritis is chronic disease, while (71.1%) know that it is not an infectious one. the two previous percentages may be considered as good level of awareness in those aspects. The most known symptoms and signs were joint pain and limitation of movement (88.3%) and (68.3%) respectively. That indicates that the teachers associate highly between joint pain and osteoarthritis. The mean value for awareness was interesting to find out that just (49.5%) knew that pain increase with movement is a symptom of osteoarthritis because it is common.

The only well known risk factor of the disease was increase weight with (78.7%). That also emphasizes the good association between osteoarthritis and increase weight in teachers minds. The other risk factors had a much lower level of awareness with the mean for them was (31.8) that may be because the cause of the disease is not fully understood till now.

In this study, (42.6%) of the sample think that the risky age for developing osteoarthritis is old people, but the rest of sample (57.4%) doesn't know that.

On the other hand (84.5%) think that osteoarthritis affects the daily activity, and that maybe considered a high level. That can be due to the poor health care in Al-Mukalla which leads to more complications from the disease.

The sample doesn't have a very common source of information with the mass others (radio, friends) and T.V on top with (31%) and (25%) respectively. They came first because of the recent increasing concern of the others (radio, friends) about the disease and the T.V is always a good source for information whether right or wrong. Only (11.7%) of the teachers heard about osteoarthritis from medical staff member, that low percentage may indicate the poor educational roles of the medical staff in Al-Mukalla.

Conclusion:

The awareness level of governmental primary school teachers regarding to the accurate concept of osteoarthritis is high.

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References:

1. World Health Organization. (W) Report 2002. Reducing Risks, Promoting Healthy Life. Geneva: WHO; 2002.
2. Felson DT. The epidemiology of knee osteoarthritis: results from the Framingham Osteoarthritis Study. *Semin Arthritis Rheum* 1990;20:42-50.
3. Blagojevic M, Jinks C, Jeffery A, Jordan KP. Risk factors for onset of osteoarthritis of the knee in older adults: a systematic review and meta-analysis. *Osteoarthritis Cartilage*. 2010;18:24-33.
4. Zhang Y, Jordan JM. Epidemiology of osteoarthritis. *Clin Geriatr Med*. 2010;26:355-69.
5. Reid CR, Bush PM, Cummings NH, McMullin DL, Durrani SK. A review of occupational knee disorders. *J Occup Rehabil*. 2010;20:489-501.
6. Lementowski PW, Zelicof SB. Obesity and osteoarthritis. *Am J Orthop (Belle Mead NJ)* 2008;37:148-51.
7. Wilder F., Hall B., Barrett J. and Lemrow N. History of acute knee injury and osteoarthritis of the knee. *Journal of Osteoarthritis and Cartilage* (2002) 10, 611-616.
8. Lwanga SK, Lameshow S. Sample size determination in health studies. Geneva, World Health organization, 1991.
9. Messier SP, et al. (2005) Weight loss reduces knee-joint loads in overweight and obese older adults with knee osteoarthritis. *Arthritis and Rheumatism*,52(7):2026-2032.
10. Stitik TP, et al. (2010). Osteoarthritis. In WR Frontera et al., eds., *Delisaes physical Medicine and Rehabilitation: Principles and practice*, 5th ed., vol .1, pp. 781-809 . Philadelphia :Lippincott Williams and Wilkins.
11. Lozada CJ (2013). Treatment of osteoarthritis. InGS Firestein et al., eds., *Kelleyes Textbook of Rheumatology* 9th ed ., vol. 2, pp. 1646-1659. Philadelphia: Saunders.
12. Towheed TE, et al. (2006) Acetaminophen for osteoarthritis. *Cochrane Database of Systematic Reviews* (1). Oxford: Update Software.
13. American Academy of Orthopaedic Surgeons (2013). Summary of recommendations. Treatment of osteoarthritis of the knee,2nd ed. Available online.
14. Dunlop DD,et al.(2011).physical activity levels and functional performance in the osteoarthritis initiative. *Arthritis and Rheumatism*, 63 (1): 127-136.
15. Ajzen I, Fishbein M. Understanding attitudes and predicting social behaviour. USA: Prentice Hall; 1980.
16. Amadio P, Cummings D. Evaluation of acetaminophen in the management of osteoarthritis of the knee. *Current Therapeutic Research - Clinical and Experimental*. 1983;34(1):59-66.
17. Amin AK, Clayton RA, Patton JT, Gaston M, Cook RE, Brenkel IJ. Total knee replacement in morbidly obese patients. Results of a prospective, matched study. *Journal of Bone and Joint Surgery - British Volume*. 2006;88(10):1321-1326.
18. Andrews CJ, Cohen L, Crail RB, Douch G, Sheldon MG, Wray KA. A trial of Fortagesic and Paramol 118 in osteoarthritis. *Journal of International Medical Research*. 1976;4(6):432-434.
19. Arcury TA, Gesler WM, Cook HL. Meaning in the use of unconventional arthritis therapies. *American Journal of Health Promotion*. 1999;14(1):7-15.
20. Arensi F. Comparison of efficacy and therapeutic safety of two treatments based on hyaluronic acid (Go-On and Hyalgan) in knee osteoarthritis. *Minerva Ortopedica e Traumatologica*. 2006;57(3):105-111.
21. Arthritis and Musculoskeletal Alliance. Standards of care for people with osteoarthritis. London: ARMA; 2004. Available from.
22. Arthritis Care. OA nation. London: Arthritis Care; 2004. Available from: www.arthritiscare.
23. Arthritis Research Campaign. Arthritis:the big picture. London: Arthritis Research Campaign; 2002. Available from.

24. Atchia I, Kane D, Reed MR, Isaacs JD, Birrell F. Efficacy of a single ultrasound-guided injection for the treatment of hip osteoarthritis. *Annals of the Rheumatic Diseases*. 2011;70(1):110–116.
25. Auerbach B. Cross-linked hyaluronic acid in the treatment of osteoarthritis of the knee--results of a prospective randomized trial. *Zentralblatt Für Chirurgie*. 2002;127(10):895–899.