GEORGIAN MEDICAL NEWS

ISSN 1512-0112

NO 1 (334) Январь 2023

ТБИЛИСИ - NEW YORK

ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии

საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

Monthly Georgia-US joint scientific journal published both in electronic and paper formats of the Agency of Medical Information of the Georgian Association of Business Press. Published since 1994. Distributed in NIS, EU and USA.

GMN: Georgian Medical News is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

GMN is indexed in MEDLINE, SCOPUS, PubMed and VINITI Russian Academy of Sciences. The full text content is available through EBSCO databases.

GMN: Медицинские новости Грузии - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНИТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

GMN: Georgian Medical News – საქართველოს სამედიცინო სიახლენი – არის ყოველთვიური სამეცნიერო სამედიცინო რეცენზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეტყველების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რუსულ და ინგლისურ ენებზე ქვეყნდება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

ჟურნალი ინდექსირებულია MEDLINE-ის საერთაშორისო სისტემაში, ასახულია SCOPUS-ის, PubMed-ის და ВИНИТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებიდან.

WEBSITE

www.geomednews.com

К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman** (**Кириллица**), для текста на грузинском языке следует использовать **AcadNusx.** Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применявшиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи**. Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - http://www.spinesurgery.ru/files/publish.pdf и http://www.nlm.nih.gov/bsd/uniform_requirements.html
В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректура авторам не высылается, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

При нарушении указанных правил статьи не рассматриваются.

REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or compu-ter-printed on a single side of standard typing paper, with the left margin of **3** centimeters width, and **1.5** spacing between the lines, typeface - **Times New Roman** (**Cyrillic**), print size - **12** (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: http://www.nlm.nih.gov/bsd/uniform_requirements.html
http://www.icmje.org/urm_full.pdf
In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

Articles that Fail to Meet the Aforementioned Requirements are not Assigned to be Reviewed.

ავტორთა საყურადღებოდ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დავიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოადგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე,დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურენოვან ტექსტებში - **Times New Roman (Кириллица)**, ხოლო ქართულენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx.** შრიფტის ზომა – 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სიის და რეზიუმეების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გაშუქდეს: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრამების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შეღებვის ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფჩხილებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შეჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

აღნიშნული წესების დარღვევის შემთხვევაში სტატიები არ განიხილება.

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Содержание:

GEORGIAN MEDICAL NEWS
No 1 (334) 2023

HEALTH-RELATED QUALITY OF LIFE AMONG PATIENTS WITH OSTEOARTHRITIS: A CROSS-SECTIONAL STUDY

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Abstract.

Background and objective: osteoarthritis (OA) is a chronic disease characterized by the collapse or destruction of the cartilage that covers the ends of the bone in the joints. Health-related quality of life (QoL) is a multidimensional concept that includes aspects of social, emotional, mental, and physical functioning. This study aimed to evaluate the quality of life among patients with OA.

Methods: A cross-section study takes place in Mosul city with a sample of 370 patients aged 40 years and older included. The data collection form consisted of personnel with demographic and socioeconomic information, comprehension of the OA symptoms, and QoL scale.

Results: This study showed a significant relationship between QoL domains (domain 1 and domain 3) with age. Domain 1 shows a significant correlation with BMI and domain 3 also shows a significant correlation with the duration of the disease ($p<.0.05$). In addition to that gender show, significant differences in all QoL domains Glucosamine show significant differences in domain 1 and domain 3, also a significant difference in domain 3 with both steroid injection and hyaluronic injection in addition to the topical NSAIDs.

Conclusions: OA is a disease that affects females more than males and causes poor quality of life. The intra- articular of both hyaluronic injection and steroid and Glucosamine had not been more beneficial and effective in the treatment of a group of patients with OA. WHOQOL-BRIF scale was valid for assessing the QoL among patients with OA.

Key words. Osteoarthritis, vitamin D, steroid, hyaluronic acid, glucosamine, whoqol-brif scale.

Introduction.

Osteoarthritis (OA) is a chronic disease characterized by the collapse or destruction of the cartilage that covers the ends of the bone in joints. This may cause the bones to rub against one another, which leads to pain, stiffness, edema, and a loss of mobility [1]. Although the prevalence of OA is difficult to determine exactly, due to the clinical symptoms of OA do not always match the structural changes of OA, which are typically characterized as abnormal changes in the appearance of the joints on radiographs but still the hip and knee joints with OA show age-related increase in prevalence [2]. Although the OA often worsens over time and mostly affects the hands, spine, hip, knee, and ankle joints, the most common joint affected are the hip and knee joints [3]. Even after many years of studies, the cause is still unknown. However, a variety of environmental, biomechanical, genetic, and systemic variables also play a role in the development of this OA disease [4].

The World Health Organization defines the quality of life (QoL) as a person's view of their place in life about their objectives, expectations, standards, and concerns in the context of the culture and value system in which they live. Wealth, employment, environment, physical, and mental health, education, leisure, and social activities are common measures of life [5,6].

Healthy connected QoL is a multidimensional concept that includes aspects of social, emotional, mental, and physical functioning. Instead, of focusing just on the direct measures of population health, life expectancy, and causes of death, it highlights the impact that health status has on quality of life. QoL is associated with the concept of being well which gauges positive elements of a person's life, such as contentment and cheerful sentiments [7].

People with OA had severe pain, which is a major symptom that can affect their daily functioning activity and physical limitations [8,9]. Also, it may be limited in functional capacity and constraint. Pain is a leading source of impairment in patients with OA and disabilities which are usually manifested by difficulty in walking, climbing stairs, performing household chores, and sitting upright a have negative psychological impacts [10,11]. In addition, the patients with OA suffer from a progressive increase impact on their activity of daily living, which lead to a loss in labor relation, leisure, social life, future fatigue, disability, depressed mood, poor treatment outcomes, and increased pharmacotherapy which can impact a person's mental health and, consequently, their quality of life leading to an important decrease in their quality of life [12-14]. This study day aims to evaluate the quality of life among patients with OA.

Patients and Methods.

This study is designed to be a cross-sectional descriptive study among patients invited from the Rheumatology clinic in the following hospitals (Ibn- Seena Teaching Hospital, Al - Jumhory Teaching Hospital, Al-Salam Teaching Hospital).

The clinics were visited weekly starting from Sunday for Ibn-Seena, Monday for Al-Jumhory, and Tuesday for Al-Salam, then restart the cycle from Wednesday and continued in this manner for the whole period of data collection. A total sample of 370 participants aged 40 years and older were successively included. The data collection was continued from 1-12 2021 until 31-3-2022. The data collection form consisted of personal demographic and socioeconomic information, comprehension of the OA symptoms, QoL scale.

Research instruments: The expert rheumatologist diagnosed the patients in the aforementioned clinics without the researcher's involvement. However, OA diagnosis was established and validated as follows utilizing the Kellgren-Lawrence grading scale, American College of Rheumatologists criteria, and standing anteroposterior images: Osteoarthritis has no symptoms (0 means not present). Osteophytes that are either 1 or 2 but do not restrict the joint space 3. Osteophytes that are seen and have moderate joint space narrowing Osteophytes

Table 1. *Socio-demographic characteristics of the study participant (N=370).*

Categorical variable	Frequency	Percent%
Gender		
Male	69	18.6
Female	301	81.4
Marital status		
married	276	74.6
single	14	3.8
divorced	4	1.1
widow	76	20.5
Education level		
No formal education	72	19.5
primary	131	35.4
secondary	72	19.5
university	95	25.7
Steroid injection. (n=158)		
Taken	158	42.7
Not taken	212	57.3
Vitamin D supplement (n=349)		
Taken	349	94.3
Not taken	21	5.7
Hyaluronic acid in. (n=97)		
Taken	97	26.2
Not taken	273	73.8
Glucosamine (n=153)		
Taken	153	41.4
Not taken	217	58.6

Table 2. *QoL domain scores and demographic characteristics.*

	Domain1		Domain2		Domain3		Domain4		
	r	***P* value**	**r**	***P* value**	**r**	***P* value**	**r**	***P* value**	
Age*	-0.143	**0.006**	-0.075	0.148	-0.283	**≤0.05**	0.050	0.339	
BMI*	-0.188	**≤0.05**	-0.097	0.063	0.015	0.774	-0.041	0.428	
Duration of disease*	-0.096	0.064	-0.071	0.172	-0.236	**≤0.05**	0.058	0.265	
Uric acid*	-0.027	0.006	0.051	0.327	-0.008	.0872	0.095	0.068	
ESR*	-0.160	**0.002**	-0.086	0.100	**-0.085**	0.102	0.069	0.184	
		Mean± SD	***P* value**	**Mean ± SD**	***P* value**	**Mean ± SD**	***P* value**	**Mean ± SD**	***P* value**
Gender**	Male Female	51.86±16.60 42.48±15.12	**≤0.05**	59.21±13.62 50.35±15.27	**≤0.05**	67.14±14.99 61.75±14.25	**0.004**	59.27±11.08 53.57±12.40	**0.001**
CRP**	Positive Negative	44.24±15.23 44.23±15.92	0.874	51.82±13.42 52.03±15.65	0.690	60.76±13.84 63.06±14.62	0.325	55.80±11.90 54.45±12.57	0.437
Vitamin D	Taken Not taken	44.24±15.68 44.14±18.31	0.860	51.94±15.06 53.0±19.930	0.436	62.37±14.41 69.09±15.23	0.079	54.34±12.34 59.42± 14.04	0.110
Glucosamine	Taken Not taken	41.98±15.26 45.82±16.03	**0.014**	50.23±15.30 53.25± 15.30	0.067	59.81±15.29 64.82±16.61	**≤0.05**	55.41±12.86 54.09±12.19	0.292
Intra-articular steroid injection	Taken Not taken	42.55±15.04 45.49±16.26	0.058	50.74±15.02 52.95±15.56	0.217	59.78±15.73 64.97±13.16	**0.002**	55.29±12.70 54.15±12.31	0.346
Intra-articular hyaluronic acid	Taken Not taken	42.15±15.29 44.97±15.95	0.122	51.46±15.02 52.20±15.49	0.676	59.40±14.21 63.94±14.47	**0.002**	55.24±13.01 54.42±12.26	0.622

**spearman correlation test*
***Mann-Whitney test*

are seen and have severely narrowed joint spaces (number 4) [3]. The data collection was personal with demographic and socioeconomic information, the quality-of-life scale of OA patients, and biochemical data.

WHOQOL-BREF scale [15] was used for assessing the QoL, WHOQOL-BREF scale is a short version of the WHOQOL-100. The WHOQOL-BREF is a self-administered questionnaire comprising 26 questions on the individual's perceptions of their health and well-being over the previous two weeks to four weeks. The WHOQOL-BREF consists of 24 quality-of-life components as well as two items from the overall quality of life and health. Also, it is subdivided into four domains which include the physical domain, the psychological domain, the social domain, and the environmental domain. A high score

on the QoL scale (WHOQOL-BREF) scale means the better condition of patients and good QoL. Biochemical tests were carried out in three consulting hospitals in Mosul city. Uric acid, C-Reactive Protein (CRP), and Erythrocyte Sedimentation Rate (ESR) were evaluated.

Inclusion and exclusion criteria: Adults of both gender that were diagnosed with primary OA with or without gout were included in this study. Where the exclusion criteria included patients that were investigated for malignant disease, rheumatoid arthritis, septic arthritis, neurological disease, trauma, intraarticular fracture, meniscus and ligament injury, joint surgeries, Parkinson's disease, metabolic bone disease, degenerative disease, knee and hip replacement surgery, secondary OA, heart disease, liver failure and renal failure were excluded.

Statistical analysis: The data was statically tested by SPSS and both descriptive and inferential statics was applied accordingly. The Spearman coefficient test was used to assess the correlation between continuous groups. The Mann-Whitney and Kruskal-Wallis tests were used to evaluate the difference between continuous and categorical groups.

Results.

Socio-demographic characteristics: This study showed that OA was more common in females than in males, in which 301 (81.4%) of patients were female; in addition to that, most of the patients were married 276 (74.6%). Most patients that participated in this study were primarily educated 133 (35.4%). Vitamin D was used by 349 (94.3%) of the patients and Glucosamine was taken by 153 (41.4%). In addition to that, 158 (42.7%) of the patients were treated with intra-articular injection steroids, and 97 (26.2%) of them were previously treated with hyaluronic acid.

QoL domain scores: WHOQOL-BREF scale [15] was used for assessing the QoL, WHOQOL-BREF scale is a short version of the WHOQOL-100. The WHOQOL-BREF is a self-administered questionnaire comprising 26 questions on the individual's perceptions of their health and well-being over the previous two weeks to four weeks. The WHOQOL-BREF consists of 24 quality-of-life components as well as two items from the overall quality of life and health. Also, it is subdivided into four domains which include the physical domain, the psychological domain, the social domain, and the environmental domain. A higher score on the WHOQOL-BREF scale means good QoL.

A significant relationship between QoL domains (domain 1 and domain 3) and age, also between domain 1 and BMI, and between domain 3 and duration of the disease ($p<.0.05$). Also, a significant relationship was found between domain 1 and ESR with ($P<.0.05$) whereas the other three domains (2,3 and 4) and ESR values show a non-significant relationship, in addition, the four QoL domains had a non-significant correlation with uric acid value. A significant difference between the gender and the score of the WHOQOL-BREF scale in four domains was that the females were worse QoL compared with males in the group of patients with OA. A significant difference was found between the QoL domains scores and glucosamine in domain 1 and domain 3, the patients who had not taken Glucosamine had better QoL compared with patients who had taken glucosamine. Also, a significant difference in domain 3 with both steroid injection and hyaluronic injection was that both injections taken by patients with OA show lower QoL compared with the patients who were not taken both intra-articular injections.

Discussion.

This study was conducted to assess the quality of life among a group of patients with OA. It is an across-section study that takes place in Mosul city that used the WHOQOL-BRIF scale to assess the QoL. The percentage of OA in females was more than in males in about 301 (81.4%) samples of patients. In Russia in 2022 [16] the author's concert articles illustrated that the OA was more common in females than males. Also study in Italy in 2021 [17] performed that OA is more common in females than males. However, the reason for increase the in OA in females more than in males is not fully understood but may relate to many factors such as autonomic of female differences from males, such that females' hips are wider than males.

In 2021 in Serbia, Kocic M. [18] performed a study that showed that both knee and hip OA are more common in married patients than single. Where is in 2014 [19] study performed by M. R. in New York shows 12% of patients who were married had OA compared with widow patients about 41%. In the Mosul community, most people are married even at an early age. Furthermore, the Mosul community increases the number of polygamies which may illustrate the high percentage of OA in married people.

The primary education level was more frequent in 131 (35.4%) than in secondary or university. In New York 2014 [19], study show that OA was common in graduate school at 41% compared with high school at 24%. However, most patients that participated in this study and consulted in hospitals for low-cost treatment and lead quit school and work to make living. and therefore, most people were leaving school at an early age for work to provide the necessities of life.

The patients who participated in this study were taken vitamin D as a supplement not only to prevent the progression of OA but also for treated osteoporosis, some studies were performed that vitamin D deficiency increased the risk of OA [20]. Vitamin D plays a certain role in bone metabolism and there is a possibility that vitamin D, along with its differing effects on bone growth, may lead to bone behavior changes contributed to at different stages of OA development [21,22].

Four domains of the WHOQOL-BRIF scale were scored according to certain questions and taken four different scores that were tested with age, BMI, and duration of the disease. The significant result between domains 1 and 3 with age with P value ≤ 0.05, the same article which takes place in Turkey [23] found the significant relationship between age with both physical domain and social domain. The common symptoms of OA as pain, stiffness, and other symptoms that restricted the mobility and daily functional status of these patients, with growing old another problem is age which considers the major risk cause

for OA due to a joint with OA differs extensively from one that is aged [23]. When other OA risk causes are current, aging changes in the cells and extracellular matrix in joint tissues may evaluate the susceptibility of older adults to OA.

An imbalance between catabolic and anabolic activity in the joint is a characteristic of OA, and aging may play a role in this imbalance. The articular cartilage cannot keep up equilibrium due to the poor response of the aging chondrocyte to growth factors. It appears that increased susceptibility to cell death also contributes to the loss of the chondrocyte. Family ties reflex good social life, especially in elderly females who tend to spend the most time at home due to diseases as OA is one of the most restricted in mobility out of the house and that leads to some social isolation [24].

A significant result was shown in the duration of the disease with a social domain that the OA is a type of disease that worsens over time, usually leading to chronic pain and in severe cases, joint pain and stiffness can make daily tasks and function status difficult, also depression and sleep disturbances with anxiety can result from the pain and disability of OA and that lead to negative effect to the patient's social life. The BMI has associated with OA and many studies illustrated that obesity is one of the risk factors in development of OA [25]. In this s, study the significant relationship between BMI and the physical domain of the QoL scale where other studies take place in Turkey using Nottingham Health Profile as the QoL scale demonstrates that BMI has a non-significant association with physical mobility [26]. The potential study [27] suggested that obesity (defined as a BMI greater than 30 kg/m^2) increases the related risk of rising knee OA by 2–10 fold. Obesity is linked with alterations in the local biomechanical condition that impair joint stability, shift load bearing to less commonly loaded regions, and increase loading extent in these regions that eventually develop OA.

The ESR is one of the inflammatory indicators that show a significant effect on the physical activity domain. A certain study [28] was done in Japan show evaluated the ESR in patients with OA. Where a study in Bangkok 2014 [29], shows that ESR is not elevated in patients with OA. Since elevated ESR in case of the tenderness of the OA joint means the inflammation of the joints that patients severe from pain, tenderness, and stiffness that all these lead to limitation in the movement, or performance of daily functional activity and affect the physical activity of the patients. Gender is significantly associated with four QoL domains that many studies illustrated the difference between QoL domain scales and gender. One study shows a significant relationship between both genders with OA with WOMAC-pain, WOMAC function, and QoL scale SF36 [30]. Another study in Turkey performs that significant relationship between gender with physical mobility, sleep, and Function Sports [26].

Although the result shows a significant difference between QoL domains and gender this result was a consolation to the bad QoL of females more than males and that is true for many of the articles that provide that the OA is more common in females than males [31,32]. Since some study show evaluated CRP in a group of patients with OA the reason for the fore evaluated level of CRP is the relation of OA associated with inflammation of the joints [33,34].

The significant difference between QoL domains that include the physical domain and social domain with glucosamine, the patients who had taken glucosamine had worse QoL compared with patients who did not take glucosamine. Although glucosamine has been enhanced to stimulate the synthesis of synovial fluid, inhibit degradation, and get better curing of articular cartilage [35], some authors have performed studies that external glucosamine cannot stimulate the synthesis of chondroitin sulfate. in addition to the side effect that can itself worse the QoL [36].

Significant difference between the social domain and inter articular injection of both Hyaluronic acid and steroid injection, was that patients were not taken both injections get better QoL than the patients who were taken. Inter-articular injection of both steroid injection and Hyaluronic acid can reduce inflammation, edema, pain, and stiffness and improve the function of the joint that leads improve mobility of patients [37,38], but other studies show that steroid injection can be useful within six months only or not have any benefit and may worse the function status of the joints that lead fasted progression of the OA and poor QoL [39,40]. The study in the USA [41], demonstrated that hyaluronic acid improves QoL. Furthermore, hyaluronic acid is effective to treat mild to moderate OA with show no response to the NSAIDs, or this group of patients has contraindications to using such drugs, hyaluronic acid can be the affected drug [42]. Also, two studies [43,44] illustrated the benefit of treatment with Hyaluronic acid in patients with OA. Although it was acted to restore the viscoelasticity of synovial fluid and its protective properties of Hyaluronic acid in the joint [45,46], the effects of Hyaluronic acid injections are temporary, so a person will need to have periodic courses of treatment to maintain the benefits. In addition to that the high cost of the Hyaluronic acid injection especially most patients that visited Mosul hospital had limited financial capabilities.

The patients who participated in this study were taken vitamin D as a supplement not only to prevent the progression of OA but also for treated osteoporosis [47], some studies were performed that vitamin D deficiency increased the risk of OA [20]. Vitamin D plays a certain role in bone metabolism and there is a possibility that vitamin D, along with its differing effects on bone growth, may lead to bone behavior changes contributed to at different stages of OA development [48].

The vitamin D supplement in a group of patients with OA demonstrated that non-significant relationship that vitamin D with QoL domains. Many studies take place to assess the benefit of vitamin D in OA that show that vitamin D deficiency may be increased the risk of developing OA [20-22,49]. In Mosul city, most people were taken vitamin D as a supplement to prevent osteoporosis which considers a common incidence, especially in menopausal females and even males.

This study was a cross-sectional study, which limit the generality of the sharing to the whole Mosul population. However, the sample size was 370 patients who participated in this study to signify all OA patients treated in the three rheumatological hospitals. The patients who participated in the study were only from the government hospital and not a private clinic. However, most patients who have visited hospitals may

be had poor QoL compared with patients were visited private clinics where these patients thought better QoL due to many of them may be university level of education, financially comfortable, and generally having a good life. Each hospital was visited one day weekly due to the pandemic of COVID-19.

Conclusion.

OA is a chronic disease that affects both genders, but it is more common in females than males, and females show worse QoL than males. Age, BMI, and level of education consider critical factors for the effect on the quality of life. Glucosamine and both intra-articular steroid and hyaluronic acid injection was showing no significant effect on the quality of life in patients with OA. the WHOQOL- BRIF scale was valid in the detected QoL among patients with OA.

REFERENCES

1. Australian Institute of Health and Welfare 2020. Osteoarthritis (Cat. no. PHE 232). 2020.
2. Conaghan P, Birrel F, Porcheret M, et al. Osteoarthritis: care and management in adults. Clinical guideline 177. Natl Clin Guidel Cent. 2014;1-498.
3. Sciences H of TH, School BM, Bristol U of U, et al. Aplle & solomon systemic of othopedics and trauma. tenth. Apley and Solomon's System of Orthopaedics and Trauma. 2018:91-104.
4. Tawfeeq AK. care centers; Al-rusafa/Baghdad/2017. AL-Kindy Coll Med J. 2019;15:15-25.
5. Martinez-Martin P, Prieto-Flores ME, Forjaz MJ, et al. Components and determinants of quality of life in community-dwelling older adults. Eur J Ageing. 2012;9:255-263.
6. Post MWM. Definitions of quality of life: What has happened and how to move on. Top Spinal Cord Inj Rehabil. 2014;20:167-180.
7. Yin S, Njai R, Barker L, et al. Summarizing health-related quality of life (HRQOL): Development and testing of a one-factor model. Popul Health Metr. 2016;14:1-9.
8. Peungsuwan P, Sermcheep P, Harnmontree P, et al. The effectiveness of thai exercise with traditional massage on the pain, walking ability and QOL of older people with knee osteoarthritis: A randomized controlled trial in the community. J Phys Ther Sci. 2014;26:139-144.
9. Foley SJ, Lord SR, Srikanth V, et al. Falls risk is associated with pain and dysfunction but not radiographic osteoarthritis in older adults: Tasmanian Older Adult Cohort study. Osteoarthr Cartil. 2006;14:533-539.
10. Lespasio MJ, Piuzzi NS, Husni ME, et al. Knee Osteoarthritis: A Primer. Perm J. 2017;21:1-7.
11. Murphy SL, Smith DM, Clauw DJ, et al. The impact of momentary pain and fatigue on physical activity in women with osteoarthritis. Arthritis Care Res. 2008;59:849-856.
12. Pereira D, Ramos E, Branco J. Osteoarthritis Osteoartrite. Osteoarthritis. 2015;28:99-106.
13. Kawano MM, Araújo ILA, Castro MC, et al. Assessment of quality of life in patients with knee osteoarthritis. Acta Ortop Bras. 2015;23:307-310.
14. Fertelli TK, Tuncay FO. Fatigue in individuals with knee osteoarthritis: Its relationship with sleep quality, pain, and depression. Pakistan J Med Sci. 2019;35:1040-1044.
15. Nakane Y, Tazaki M, Miyaoka E. User Manual WHOQOL. Iryo To Shakai. 1999;9:123-131.
16. Peshkova M, Lychagin A, Lipina M, et al. Gender-Related Aspects in Osteoarthritis Development and Progression: A Review. Int J Mol Sci. 2022;23.
17. Tschon M, Contartese D, Pagani S, et al. Gender and sex are key determinants in osteoarthritis not only confounding variables. A systematic review of clinical data. J Clin Med. 2021;10.
18. Kocic M, Milenkovic M, Nikolic D, et al. Factors associated with poor self-reported function and quality of life in patients with end-stage knee or hip osteoarthritis immediately prior to total joint arthroplasty. Arch Med Sci. 2021;17:1340.
19. RM. Perceived Health Status of Women with Knee Osteoarthritis: A Cross-Sectional Study of the Relationships of Age, Body Mass, Pain, and Walking Limitations. Open Orthop J. 2014;8:255-263.
20. Zhang FF, Driban JB, Lo GH, et al. Vitamin D deficiency is associated with progression of knee osteoarthritis. J Nutr. 2014;144:2002-2008.
21. Mabey T, Honsawek S. role of Vitamin D in Osteoarthritis: Molecular, Cellular, and Clinical Perspectives. Int J Endocrinol. 2015;2015.
22. Park CY. Vitamin D in the prevention and treatment of osteoarthritis: From clinical interventions to cellular evidence. Nutrients. 2019;11.
23. Clynes MA, Jameson KA, Edwards MH, et al. Impact of osteoarthritis on activities of daily living: does joint site matter? Aging Clin Exp Res. 2019;31:1049-1056.
24. Siviero P, Veronese N, Smith T, et al. Association Between Osteoarthritis and Social Isolation: Data from the EPOSA Study. J Am Geriatr Soc. 2020;68:87-95.
25. Lementowski PW, Zelicof SB. Obesity and osteoarthritis. Am J Orthop (Belle Mead NJ). 2008;37:148-151.
26. Aksekili MAE, Fidan F, Alkan BM, et al. Quality of Life in Knee Osteoarthritis; Correlation with Clinical Measures and the Knee Injury and Osteoarthritis Outcome Score. Acta Medica Anatolia. 2016;4:1-7.
27. Sowers MR, Karvonen-Gutierrez CA. The evolving role of obesity in knee osteoarthritis. Curr Opin Rheumatol. 2010;22:533-537.
28. Hanada M, Takahashi M, Furuhashi H, et al. Elevated erythrocyte sedimentation rate and high-sensitivity C-reactive protein in osteoarthritis of the knee: relationship with clinical findings and radiographic severity. Ann Clin Biochem. 2016;53:548-553.
29. Ngarmukos S, Tunnitisupawong K, Tanavalee A. Serum CRP and ESR Values do not Correlate with Clinical and Radiographic Severity of Knee Osteoarthritis. 2014;38.
30. Debi R, Mor A, Segal O, et al. Differences in gait patterns, pain, function and quality of life between males and females with knee osteoarthritis: A clinical trial. BMC Musculoskelet Disord. 2009;10:1-10.
31. Boyan BD, Tosi L, Coutts R, et al. Sex differences in osteoarthritis of the knee. J Am Acad Orthop Surg. 2012;20:668-669.

32. Szilagyi IA, Waarsing JH, Schiphof D, et al. Towards sex-specific osteoarthritis risk models: Evaluation of risk factors for knee osteoarthritis in males and females. Rheumatol (United Kingdom). 2022;61:648-657.
33. Kozijn AE, Tartjiono MT, Ravipati S, et al. Human C-reactive protein aggravates osteoarthritis development in mice on a high-fat diet. Osteoarthr Cartil. 2019;27:118-128.
34. Bay-Jensen AC, Bihlet A, Byrjalsen I, et al. Serum C-reactive protein metabolite (CRPM) is associated with incidence of contralateral knee osteoarthritis. Sci Rep. 2021;11:1-10.
35. Reginster JY, Bruyere O, Neuprez A. Current role of glucosamine in the treatment of osteoarthritis. Rheumatology. 2007;46:731-735.
36. Henrotin Y, Mobasheri A, Marty M. Is there any scientific evidence for the use of glucosamine in the management of human osteoarthritis? Arthritis Res Ther. 2012;14:1-10.
37. Gigante A, Callegari L. The role of intra-articular hyaluronan (Sinovial®) in the treatment of osteoarthritis. Rheumatol Int. 2011;31:427-444.
38. Arroll B, Goodyear-Smith F. Corticosteroid injections for osteoarthritis of the knee: Meta-analysis. Br Med J. 2004;328:869-870.
39. Jüni P, Hari R, Rutjes AWS, et al. Intra-articular corticosteroid for knee osteoarthritis. Cochrane Database Syst Rev. 2015;2015.
40. Lambert RGW, Hutchings EJ, Grace MGA, et al. Steroid injection for osteoarthritis of the hip: A randomized, double-blind, placebo-controlled trial. Arthritis Rheum. 2007;56:2278-2287.
41. Kalman DS, Heimer M, Valdeon A, et al. Effect of a natural extract of chicken combs with a high content of hyaluronic acid (Hyal-Joint®) on pain relief and quality of life in subjects with knee osteoarthritis: A pilot randomized double-blind placebo-controlled trial. Nutr J. 2008;7:1-9.
42. Migliore A, Procopio S. Effectiveness, and utility of hyaluronic acid in osteoarthritis. Clin Cases Miner Bone Metab. 2015;12:31-33.
43. Bowman S, Awad ME, Hamrick MW, et al. Recent advances in hyaluronic acid-based therapy for osteoarthritis. Clin Transl Med. 2018;7.
44. Maheu E, Bannuru RR, Herrero-Beaumont G, et al. Why we should definitely include intra-articular hyaluronic acid as a therapeutic option in the management of knee osteoarthritis: Results of an extensive critical literature review. Semin Arthritis Rheum. 2019;48:563-572.
45. Richette P, Ravaud P, Conrozier T, et al. Effect of hyaluronic acid in symptomatic hip osteoarthritis: A multicenter, randomized, placebo-controlled trial. Arthritis Rheum. 2009;60:824-830.
46. Bernstein J, Hou SM, Wang CT. Therapeutic effects of hyaluronic acid on osteoarthritis of the knee [1] (multiple letters). J Bone Jt Surg. 2004;86:2567.
47. Polzonetti V, Pucciarelli S, Vincenzetti S, et al. Dietary intake of vitamin d from dairy products reduces the risk of osteoporosis. Nutrients. 2020;12:1-15.
48. Garfinkel RJ, Dilisio MF, Agrawal DK. Vitamin D and Its Effects on Articular Cartilage and Osteoarthritis. Orthop J Sport Med. 2017;5:1-8.
49. Kim HJ, Lee JY, Kim TJ, et al. Association between serum vitamin D status and health-related quality of life (HRQOL) in an older Korean population with radiographic knee osteoarthritis: Data from the Korean national health and nutrition examination survey (2010-2011). Health Qual Life Outcomes. 2015;13:1-9.