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A cognitive behavioral perspective about awareness and quality of management of knee osteoarthritis: A cross-sectional survey

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ABSTRACT

Background: Osteoarthritis is a prevalent and costly condition. The aim of this study was to investigate the quality of care being offered to people with osteoarthritis and common pathways of care using a validated patient-reported outcome measure. *Design*: A Cross-sectional Survey was conducted in internal medicine and Rheumatology department in prince Sattam university medical college. *Patients and Methods*: The study included 307 participants (53.1% female, participants 98% Saudis). *Main Outcome Measures*: Almost half of the participants said that they never exercise (48.5%), 34.2% said that they exercise once to three times weekly. The most common chronic diseases are hypertension (21.5%), hyperlipidaemia (21.2%), and type 2 diabetes (16.3%). *Sample Size*: Descriptive statistics are presented in the form of frequency and relative frequency (percentage) for all variables as they were categorical variables. A total of 307 osteoarthritis patients participated in this study. *Results*: Almost half of the participants 49% were you diagnosed with OA within less than one year. Most patients had mild to moderate level of pain as 29.3% had a level of 1-2. 67.8% had positive family history. The most commonly used medication was the analgesics as Brufen and Panadol by 62.2%, followed by Gel or creams that are used by 48.5% of the patients. *Conclusions*: The results suggest that implementation of evidence-informed conservative treatments for osteoarthritis in primary care is suboptimal, although evidence from a larger representative sample is needed.

Keywords: quality of care, primary health care, general practitioner, patient satisfaction

1. INTRODUCTION

The most prevalent form of osteoarthritis, affects millions of people around the world. When the protective cartilage that cushions the ends of your bones wears down over time, it causes this condition (March et al., 2010). While osteoarthritis can affect any joint, it is most commonly seen in the hands, knees, hips, and spine. Osteoarthritis (OA) of the hip and knee is currently the eleventh leading cause of disability in the world. Pressure, joint stiffness, and fatigue are common symptoms of OA, which can impair mobility, work, mental well-being, and independence (Hu et al., 2018). Osteoarthritis becomes more common as people get older also affects more women than men. Osteoarthritis is caused by excess body weight in many respects, and the more weigh, the higher risk (Zhang et al., 2008). Because Weight gain puts more strain on weight-bearing joints like the hips and knees (National Clinical Guideline Centre (UK), 2014). Fat tissue also contains proteins that can cause harmful inflammation in and around joints.

The primary goal of this research was to determine how patients felt about the consistency of OA management in primary care. Second, we decided to look into the factors that influence how people view the standard of OA treatment (Jordan et al., 2003). Despite the fact that practice trends differ, current clinical management for OA is mostly limited to the use of analgesics and/or anti-inflammatory drugs, as well as careful waiting for a referral for complete joint replacement (Zhang et al., 2005). Recent concerns about the safety of a number of widely prescribed OA drugs have drawn attention to flaws in the conventional medical approach to treatment (Institute of Medicine (US) Committee on Quality of Health Care in America, 2001). Despite various attempts to disseminate the many guidelines that exist, a number of recent studies have shown that there is a significant divergence from such recommendations. Concerns about the consistency of health-care delivery pose significant doubts about the validity of previous attempts to not only disseminate best practices, but also to ensure their implementation. Some cautious measures to promote adoption have been taken, such as the introduction of quality metrics, but they have had little impact (Bodenheimer et al., 2002). Quality metrics are aspects of health care on which there is proof or agreement that they are representative of health care quality (Wiles et al., 2019). Quality of hip and knee osteoarthritis management in primary health care in a Norwegian county: a cross-sectional survey.

2. PATIENTS AND METHODS

A cross-sectional observational study involving administration of an online survey at the same time of the conduction, Study duration & period was April 2021 – May 2021. Ethical approval was submitted and grunted by the Prince Sattam Bin Abdul-Aziz University through Deanship of Scientific Research (Research Ethics Committee in Health and Science Disciplines, ethical approval number is REC-HSD -70/-2021).

Participants

The participants of this study should undergo the following criteria: 1- they are in Riyadh and its provinces 2- above age of 18 3- diagnosed with knee OA and received treatment 4- can understand English and Arabic. The participants are gathered through WhatsApp' groups messages of the doctors and medical students in related specialty, famous account in Twitter that has around 700 thousand, and famous account in SnapChat that has 350 thousand. All of these advertisements include link into an online survey when participants click on it, they have to give their consent to answer the questionnaire and after that they pass into the questionnaire. Participants could not choose to stop answering the questionnaire or skip a question within the survey. The questionnaire was administered through Google in Arabic and English language Survey.

Data collection

The questionnaire consisted of four sections. The first section collected data regarding personal history and medical history: age, gender, occupational status, education, physical activity level, comorbidities, and any medications or supplements that participants were taking at the time of survey completion. The second section collected data regarding participants' knee OA characteristics joints affected, duration of symptoms, time since diagnosis and average pain intensity in the past week (rated on a numerical rating scale from 0–10 where 0 is no pain and 10 is the worst pain imaginable). Participants were also asked to list in chronological order all healthcare professionals they had consulted for their OA. The third section of the survey is asking about whom participants' are consulting during the time of diagnosis. The fourth section is regarding the intervention for OA recommended by international clinical guidelines. Participants were asked to respond "Yes", "No", or "Not applicable" indicating whether they had been offered that intervention. The intervention is varied from self-management to surgical management.

Statistical analysis

Descriptive statistics are presented in the form of frequency and relative frequency (percentage) for all variables as they were categorical variables. Comparison of the characteristics of participants with different levels of pain was done using Chi square test. IBM SPSS 26 for windows was used for the statistical analysis and p-value of < 0.05 is considered statistically significant.

3. RESULTS

A total of 307 osteoarthritis patients participated in this study. The characteristics of the participants are presented in table 1. 53.1% of them are females and 33.2% of them are in the age group 20-30, 17.3% are from 31-40, and 21.5% from 41 to 50, 21.8% from 51 to 60, and 6.2% are above 65. Moet of the participants (98%) are Saudis and the employment status was variable as presented in table 1. Almost half of the participants said that they never exercise (48.5%), while 34.2% said that they exercise once to three times weekly, 11.7% three to five times weekly, and 5.5% said that they exercise more than five times weekly. The most common chronic diseases they suffer from are hypertension (21.5%), hyperlipidaemia (21.2%), and type 2 diabetes (16.3%).

Table 1 Characteristics of participants

Characteristics of participants		Frequency	Percent
Sex	Male	144	46.9
	Female	163	53.1
Age group	20-30	102	33.2
	31-40	53	17.3
	41-50	66	21.5
	51-65	67	21.8
	>65	19	6.2
Nationality	Saudi	301	98.0
	Non-Saudi	6	2.0
Employment	Full time	103	33.6
	Part time	16	5.2
	Retired	53	17.3
	Unemployed	56	18.2
	Student	64	20.8
	Social security covered	8	2.6
	Housewife	7	2.3
Frequency of weekly exercising	Never	149	48.5
	Once to three times weekly	105	34.2
	Three to five times weekly	36	11.7
	More than five times	17	5.5
Chronic diseases (multiple answers allowed)	Type 1 diabetes	23	7.5
	Type 2 diabetes	50	16.3
	Hypertension	66	21.5
	Hyperlipidaemia	65	21.2
	Fibromyalgia	18	5.9
	Cardiovascular disease	15	4.9
	Asthma	29	9.4
	None	124	40.4

Almost half of the participants 49% were you diagnosed with OA within less than one year. 46% of the patients said that the symptoms started less than one year before diagnosis. Most patients had mild to moderate level of pain as 29.3% had a level of 1-2, 27.4% had 3-4, 22.8% had 5-6, 11.1% had 7-8, and only 9.4% had a pain level of 9-10. 67.8% said that they had positive family history. The most commonly used medication was the analgesics as Brufen and Panadol by 62.2%, followed by Gel or creams that are used by 48.5% of the patients. Other used medications are presented in table 2. 49.2% said that they suffered from joint stiffness or pain during the previous month. 76.2% said that they visited the primary care centres one to three times while 23.8% said that they visited them more than three times during the previous year. Other characteristics about the practices and management related to osteoarthritis are presented in table 2.

Table 2 Osteoarthritis characteristics and management

Osteoarthritis characteristics and management		Frequency	Percent
When were you diagnosed with OA	Less than one year	151	49.2
	One to five years	83	27.0
	More than five years	73	23.8
When did the symptoms start before diagnosis	Less than one year	142	46.3
	One to five years	97	31.6
	More than five years	68	22.1
Pain level	1-2	90	29.3
	3-4	84	27.4
	5-6	70	22.8
	7-8	34	11.1
	9-10	29	9.4
Family history	No	99	32.2
	Yes	208	67.8
What treatment you are taking for OA (multiple answers allowed)	Panadol or Brufen	191	62.2
	Gel or creams	149	48.5
	Cortisone injections	38	12.4
	viscous injections	19	6.2
	Neurotropic medications	42	13.7
	Nutritional supplements	44	14.3
Did you suffer from joint stiffness or pain during the last month	No	115	37.5
	Yes	151	49.2
	Don't remember	41	13.4
During the last year, how many times did you visit the primary care centre?	One to three times	234	76.2
	More than three times	73	23.8
During the last year, how many times did you consult a rheumatologist	I did not	160	52.1
	One to three times	101	32.9
	More than three times	46	15.0
During the last year, how many times did you consult an orthopaedic surgeon?	I did not	144	46.9
	One to three times	121	39.4
	More than three times	42	13.7

During the last year, how many times did you consult a physiotherapist?	I did not	167	54.4
	One to three times	104	33.9
	More than three times	36	11.7
Have you been told about the prognosis of the disease?	No	90	29.3
	Yes	152	49.5
	Don't remember	65	21.2
Have you been given the information and instructions related to the disease?	No	76	24.8
	Yes	176	57.3
	Don't remember	55	17.9
Have you ever been told about the importance of physical activity and exercising?	No	45	14.7
	Yes	217	70.7
	Don't remember	45	14.7
Were you directed or referred to a specialist in movement and sports activities? (Such as occupational or physical therapy, for example)	No	88	28.7
	Yes	166	54.1
	Don't remember	53	17.3
If you are overweight or obese, have you been asked to lose weight?	I am not overweight	96	31.3
	No	39	12.7
	Yes	153	49.8
	Don't remember	19	6.2
Have you been referred to a nutritionist to assist you in losing weight?	I am not overweight	75	24.4
	No	94	30.6
	Yes	107	34.9
	Don't remember	31	10.1
During the past year, if you had problems performing daily activities (praying, walking, and going to the bathroom, for example), was it evaluated by the health care provider (doctor)?	I had no problems performing my daily physical activities	89	29.0
	No	88	28.7
	Yes	130	42.3
Have your need for assisted walking using specific equipment (walkers, crutches) been assessed?	I did not have walking problems	103	33.6
	No	101	32.9
	Yes	103	33.6
Has the pain from this disease or even the discomfort been assessed?	No	94	30.6
	Yes	134	43.6
	Don't remember	79	25.7
When there is joint pain, was Panadol your first choice?	No	127	41.4
	Yes	180	58.6
Did you need to have stronger analgesics (Brufen,	No	147	47.9
	Yes	160	52.1

Xevo, Naproxen) as Panadol was ineffective?			
When the analgesics even the strong ones were ineffective, did the cortisone injection help?	No	135	60
	Yes	90	40
Have you been referred to a surgeon for a joint replacement operation due to the inefficiency of any of the above?	My case did not deteriorate that much	147	47.9
	No	73	23.8
	Yes	87	28.3
If the previous answer was yes, was the operation Because of OA?	No	4	1.3
	Yes	49	16.0
Was your treatment plan enough to make you live a normal, good life?	No	112	36.5
	Yes	195	63.5
Are you satisfied with the treatment plan provided to you?	No	119	38.8
	Yes	188	61.2

The order of healthcare providers who contributed to the treatment plan is presented in table 3 and figure 1. The general practitioner was the first healthcare provider in 75.9% of cases, while the orthopaedic surgeon was the first in 14.3% and only small proportion chooses other specialties as the first provider. The second providers were the general practitioner (30.3%), the orthopaedic surgeon (28.7%), and the rheumatologist (25.1%) with small proportions for the other specialties. The third providers were also the general practitioner (32.6%), the orthopaedic surgeon (28.7%), and the rheumatologist (16.3%), followed by the physiotherapist (15.3%), with small proportions for the other specialties. In all orders, the most selected providers were the general practitioners followed by the orthopaedic surgeons, and then come the rheumatologists and the physiotherapists. The least selected practitioners are the nutritionists and the pharmacists. The association between the frequency of weekly exercising and being told about the importance of physical activity was studied using Chi-square test and shoed no statistically significant association, p-value = 0.092.

Table 3 Order of the healthcare providers who contributed to the treatment plan.

Order of the healthcare providers	The first		The second		The third		The fourth		The fifth		The sixth	
	N	%	N	%	N	%	N	%	N	%	N	%
General practitioner	233	75.9	93	30.3	100	32.6	99	32.2	108	35.2	105	34.2
Rheumatologist	14	4.6	77	25.1	50	16.3	41	13.4	30	9.8	40	13.0
Orthopaedic surgeon	44	14.3	88	28.7	88	28.7	64	20.8	59	19.2	54	17.6
Physiotherapist	3	1.0	27	8.8	47	15.3	58	18.9	57	18.6	55	17.9
Pharmacist	10	3.3	22	7.2	16	5.2	35	11.4	35	11.4	25	8.1
Nutritionist	3	1.0	0	0.0	6	2.0	10	3.3	18	5.9	28	9.1

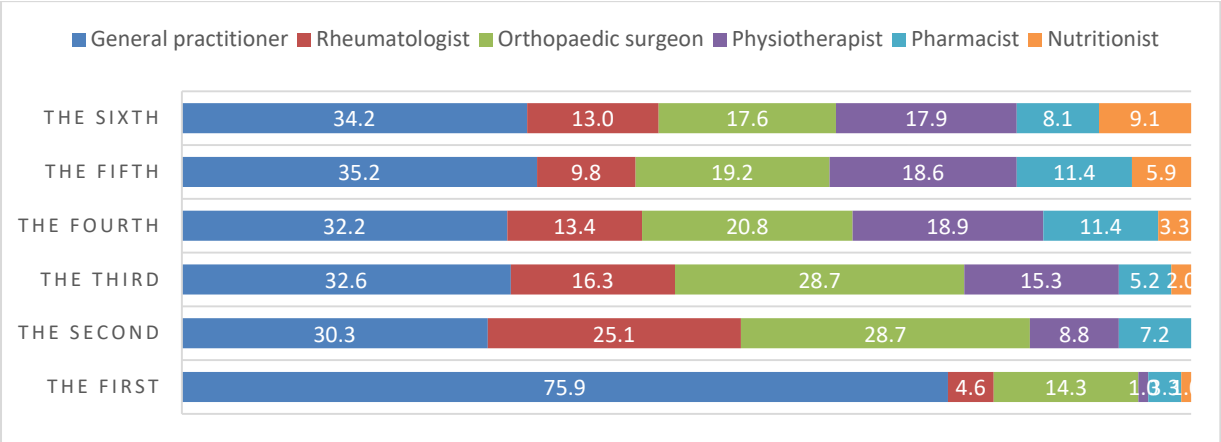

Figure 1 order of the healthcare providers who contributed to the treatment plan

The association between time since diagnosis and time of symptoms started before diagnosis was studied using the Chi-square test. There is a statistically significant association. 82% of those whose symptoms started less than one year before diagnosis were diagnosed before less than one year. 75% of those whose symptoms started one to five years before diagnosis were diagnosed before one to five years. 77% of those whose symptoms started more than five years before diagnosis were diagnosed before more than five years. The pain score of the patient was categorized into two groups for the sake of comparison, the no or mild pain for those who chose a pain score between 1-4, and the moderate to severe pain for those who chose a pain score from 5-10. The comparison was done using Chi-square test as presented in table 4 & 5. The two questions that showed a statistically significant difference between the two pain groups were "During the past year, if you had problems performing daily activities (praying, walking, and going to the bathroom, for example), was it evaluated by the health care provider (doctor)?" and "Did you need to have stronger analgesics (Brufen, Xevo, Naproxen) as Panadol was ineffective?"

A higher percentage of those who had no to mild pain (34.5%) said that they had no problems performing their daily physical activities as compared to those who had moderate to severe pain (21.8%). A higher percentage of those who had moderate to severe pain (60.2%) as compared to those with no to mild pain (46.0%) said that they needed to have stronger analgesics (Brufen, Xevo, Naproxen) as Panadol was ineffective.

Table 4 The association between the frequency of weekly exercising and being told about the importance of physical activity

The association between the frequency of weekly exercising and being told about the importance of physical activity			Have you ever been told about the importance of physical activity and exercising?			P-value	Chi-squared	95% CI
			No	Don't remember	Yes			
Frequency of weekly exercising	Never	N	27	25	97	0.092	1.189	-3.4866 – 12.2099
		%	60.0%	55.6%	44.7%			
	Once to three times weekly	N	8	12	85			
		%	17.8%	26.7%	39.2%			
	Three to five times weekly	N	6	7	23			
		%	13.3%	15.6%	10.6%			
	More than five times	N	4	1	12			
		%	8.9%	2.2%	5.5%			

Table 5 The association between time since diagnosis and time of symptoms started before diagnosis

The association between time since diagnosis and time of symptoms started before diagnosis			When were you diagnosed with OA			P-value	Chi-squared	95% CI
			Less than one year	One to five years	More than five years			
When did the symptoms start before diagnosis	Less than one year	N	124	14	4	<0.001	380.047	73.3569 – 83.0018
		%	82.1%	16.9%	5.5%			
	One to five years	N	22	62	13			
		%	14.6%	74.7%	17.8%			
	More than five years	N	5	7	56			
		%	3.3%	8.4%	76.7%			

OA quality indicator achievement rates

Achievement rates were calculated for each OA quality indicator, representing the proportion of participants in the sample who had reported receiving that intervention during the course of their OA management. There was wide variation in achievement rates across the 17 OA quality indicators. The average achievement rate for OA quality indicators was 49.3%. Achievement rates were lowest for orthopedic surgeon referral (28.3%), daily activity aids assessment, daily activity functional assessment and walking aid assessment (40.2%). Weight loss education and referral were (49.8%-34.9%) in regard. And the heights rate was physical activity education (73.6%) where the physical activity referral was (52.3%). The disease prognosis education, treatment education and Life style were (52.3%-63.2%-58.6%) in order. The pain assessment, acetaminophen as first choice, stronger pain killers & cortisone Injections were in order (43.1%-58.6%-46%-40%) (table 6).

Table 6 pain score of the patient categorized into two groups using Chi-square test

Quality Indicator	Pass rate (% yes)	95% CI
1-Disease prognosis	52.3%	-5.2474-9.2192
2- Treatment education	63.2%	-5.8399-9.8053
3*- Self-management	58.6%	-5.8748-7.8631
4- Life style	58.6%	-5.8748-7.8631
5- Physical activity education	73.6%	-5.6812-7.6709
6- Physical activity referrals	52.3%	-2.5989-12.5190
7- weight loss education	49.8%	-5.7842-8.6531
8- weight loss referrals	34.9%	-2.5797-12.4280
9*- Functional assessment	40.2%	26.3009-

10- Walking aid assessment	40.2%	41.1058 26.3009- 41.1058
11- Other aid assessment	40.2%	26.3009- 41.1058
12- Pain assessment	43.1%	-2.9191- 12.8312
13- Acetaminophen	58.6%	-5.8748- 7.8631
Stronger pain killers*14	46%	13.0369- 28.5876
15- NSAIDs	46%	13.0369- 28.5876
16- cortisone	40%	26.3009- 41.1058
17- Referral to Ortho surgeon	28.3%	-2.5989- 12.5190
The mean Qi pass rate	49.3%	

The 3 & 4 indicators were same for one question.

It was all one in one question in questionnaire 9/10/11 Qs.

The 14 & 15 indicators also it was for one question as it meant the second line after Acetaminophen.

4. DISCUSSION

This study aimed to investigate the quality of care being offered to people with OA in Riyadh region, Saudi Arabia. using a validated patient-reported outcome measure – the OA-QI (Østerås et al., 2013). There was wide variation in achievement rates across the 17 OA quality indicators. The average achievement rate for OA quality indicators was 49.3%. Almost half of indicators were met. Physical activity education, treatment education and life style were area of strong. The referral to orthopedic surgeon and weight loss referral were area of weak as the functional walking assessment which is very important as it is a cause to disability. The pharmacological line was good but need for improvement as use for cortisone injections (Crowl et al., 2015).

This research looked on the care and treatment of people with OA in the KSA. The goal of improving the quality of treatment for people with OA is a challenge for all health professionals and care providers. The Department of Health produced a study on high quality care provision in 2008, which included the efficacy of care throughout the patient journey as well as personal safety (Crowl et al., 2015). The challenge in the KSA has been convincing health professionals to concentrate on patient-centered quality improvement in order to decrease variance in clinical practice. There has been a push to limit variance in clinical practice by using nationally approved recommendations. These changes are one step toward increasing care quality and ensuring adequate service supply and access. However, challenges exist in the transmission and use of standards and recommendations in practice. Furthermore, when new therapies are developed and practices evolve, standards rapidly become out of date. Health practitioners may be unaware of the new guidance's substance and its potential value in enhancing patient care (Wong et al., 2016).

The NICE recommendations on OA specify certain critical goals for implementation in persons with OA, including exercise, weight management, pain control, and appropriate referral for joint replacement consideration (Conaghan et al., 2008). It is recommended that health practitioners offer both verbal and written guidance. This is an important component of quality of care because it ensures that patients get standardized and enough information in order to have knowledge and comprehension of the therapies being proposed (Xie et al., 2018). Knowledge about OA and its symptoms is essential for efficient self-management. However, it is suggested that promoting self-care necessitates changes in professional attitudes as well as changes in the way health care is offered (Chassany et al., 2006).

Our results revealed that patients were given inadequate information (both written and verbal) on OA, medication management, pain reduction, and exercise. Individuals with OA must have the information to make judgments and choices regarding their own treatment if they are to properly manage their illness (Petrella & Davis, 2007). It was concerning that around 20% of participants did not believe they had been diagnosed with OA (Denoeud et al., 2005). Individuals contemplating or being advised to have an OA face a difficult and possibly life-changing choice, especially given the dangers of undertaking a major

surgical treatment. It was comforting in our research that the supply of information regarding OA was excellent, with the majority of participants reporting enough knowledge and no need for further information (Brand, 2007). The minority of participants in our research who need further information wanted to know more about what to anticipate after surgery and when they might resume normal activities. It was also thought that knowing how much to do and what precise activities to conduct was vital (Jordan et al., 2003).

It is tough to strike the correct balance between too much and too little information (Hedner et al., 2004). Despite the clear paucity of information offered to them, some research participants did not desire to receive any further information (Stoffer-Marx et al., 2018). Overall, there was clearly a paucity of knowledge concerning OA and its care, particularly in terms of pain control and exercise. In a study of hypertensive outpatients and clinicians, researchers discovered that practitioners underestimate the patient's need for information and dialogue. Perhaps information requirements for people with OA should be met in primary care, where patients are often newly diagnosed. There is a need for knowledge in order for patients to make choices and decisions regarding their treatment in order for good self-management to occur. In the United Kingdom, guidelines and standards for the treatment of OA highlight the need of patient education (Skou & Roos, 2019). Ensuring the greatest possible result of care for people is an essential part of care quality. There is evidence of disparity in OA management access. There is also surgery under provision. The outcomes of this research show that patients who were not "chosen" or who chose not to have surgery were remarkably stable during a 12-month period. This might imply that the experts are making sound selections about who to list and who not to list for surgery (Vitaloni et al., 2019).

There is a push to include patients in aspects and choices regarding their treatment, which is one strategy to ensure a patient-centered approach that leads to improved quality of treatment. One of the fundamental themes of the new NHS White Paper is shared decision making, including the phrase "no choice about me without me" When the doctor and the patient disclose treatment preferences and both agree on the choice, this is referred to as shared decision-making (Hurley et al., 2018). The shared model of clinical decision making is the favored strategy in the KSA. There are many varied preferences for a patient's engagement in the decision-making process for specific patients. In a study of hypertension patients, approximately half preferred that the doctor make treatment choices. The doctor–patient connections, as well as the physicians' recommendations, were significant determinants in the decision to have surgery. Involving patients in decisions regarding their care and treatment is critical for maintaining quality of care (Rabago et al., 2013).

In our research, we discovered that there may be a misunderstanding of what collaborative decision-making involves. Patient decision aids are becoming more popular as a means of preparing patients for collaborative consultations (Anwer et al., 2016). These techniques have been utilized with OA patients to prepare them to make shared choices in their treatment plan and may be used to improve decision-making quality (Jinks et al., 2002).

Our findings imply that there is opportunity for improvement in the management of OA patients (Bryman, 2008). Addressing the requirements of people with OA presents a variety of issues for health practitioners. Patients need information and knowledge to make educated choices about their treatment in order to benefit from a patient-centered approach to treatment (Ferlie & Shortell, 2001). Perhaps a greater use of decision aids would allow patients to become an equal partner in the decision-making process about their OA therapy. Furthermore, providing patients with high-quality information regarding OA, pain management, and exercise may have a significant influence on ensuring that the disease is treated more successfully. However, significant changes in the way patients and professionals are involved, as well as the way health care is provided, may be necessary. Implementing research results is one step in enhancing the quality of care for people with OA (Grimshaw, 2004).

This research has several limitations. To begin, the use of self-reported data on therapies received may have created bias that did not accurately represent real behavior. Second, since the survey was done online, it is common for the bulk of responses to come from young patients, with older patients (those over the age of 65) accounting for just 6.2 percent of total participants (Sheldon et al., 2004).

5. CONCLUSION

There was wide variation in achievement rates across the 17 OA quality indicators. The average achievement rate for OA quality indicators was 49.3%. Almost half of indicators were met. Physical activity education, treatment education and life style were area of strong. The referral to orthopedic surgeon and weight loss referral were area of weak as the functional walking assessment which is very important as it is a cause to disability. The pharmacological line was good but need for improvement as use for cortisone injections

Recommendations

Apply the indicators on larger sample and it could include for the whole country

Use paper questionnaire and help senior citizens to fill it as it was this category the least.

Ethics

This research got approval from Research Ethics committee in Health and Science Disciplines in Prince Sattam Bin Abdulaziz University with Approval No. REC-HSD-70-2021.

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Conflict of Interest

All authors have no conflicts of interest to disclose.

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Data Sharing Statement

De-identified individual participant data (including data dictionaries) will be made available, in addition to study protocols, the statistical analysis plan, and the informed consent form. The data will be made available upon publication to researchers who provide a methodologically sound proposal for use in achieving the goals of the approved proposal. Proposals should be submitted to Dr.khurmi@hotmail.com 0557766944.

Contribution statement

Dr. Abdulrahman Ali M Khormi, Abdulsalam Saud Alharbi, conceptualized and designed the study, drafted the initial manuscript, reviewed and revised the manuscript. Drs. Abdulaziz Abdullah Basalem, Faisal Taher Hijazi, designed the data collection instruments, Remaining Doctors collected data, carried out the initial analyses, reviewed and revised the manuscript. Drs. Farraj Mohammed Alshalwi, Abdulrahman Khulaif Alenezi conceptualized and designed the study, coordinated and supervised data collection, and critically reviewed the manuscript.

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