

**MINISTRY OF EDUCATION AND
TRAINING**

MINISTRY OF HEALTH

VINUNIVERSITY



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**THE KNOWLEDGE AND PRACTICE OF SELF-MANAGEMENT IN
OSTEOARTHRITIS PATIENTS AT 108 MILITARY CENTRAL HOSPITAL
AND VINMEC HOSPITAL: A SURVEY**

By

NGUYEN THI HONG NHI

THESIS

PRESENTED TO COLLEGE OF HEALTH SCIENCES
OF VINUNIVERSITY
IN CANDIDACY OF GRADUATE MEDICAL EDUCATION
IN INTERNAL MEDICINE

Advisor: Assoc. Prof. Nguyen Ngoc Chau, MD., PhD

Hanoi, 2024

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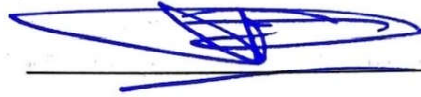
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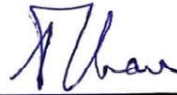
The thesis entitled "The knowledge and practice of self-management in osteoarthritis patients at 108 Military Central hospital and Vinmec hospital: A survey" by **Nguyen Thi Hong Nhi**, supervised by Assoc. Prof. Nguyen Ngoc Chau, MD., PhD was successfully defended/approved on 1st March 2024. All revisions suggested by the thesis Committee have been addressed, and the thesis has been endorsed by the Committee.

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ACKNOWLEDGMENT

I would like to express my deepest appreciation and gratitude to those who have supported and guided me throughout the challenging yet rewarding journey of completing this thesis.

First, I extend my sincere thanks to my thesis advisor, Dr Nguyen Ngoc Chau, for his unwavering support and constant encouragement. His expertise and dedication have been instrumental in shaping the direction of my research.

Special appreciation goes to Dr Tran Tuan for his collaborative spirit and insightful discussions that have enriched my research experience and enhanced the overall quality of this work. The exchange of ideas and perspectives has been truly enlightening.

I want to express my gratitude to Dr Tran Thi Tuyet Nhung and all the individuals, institutions, and resources that have played a role, directly or indirectly, in the successful completion of this thesis.

Finally, I extend my heartfelt thanks to my family, especially my husband for his understanding, thoughtfulness, and encouragement. I could not spend enough time to take care of him throughout this academic endeavor. Their unwavering support has been a constant source of motivation.

Sincerely,

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Hanoi, 13th January 2024


Nguyen Thi Hong Nhi

DECLARATION

I hereby declare that this thesis/dissertation entitled “The knowledge and practice of self-management in osteoarthritis patients at 108 Military Central hospital and Vinmec hospital: a survey” is my own work, all information in the thesis is accurate and truthful, with full citations of the references, and does not violate the laws regarding intellectual property.

Student's name



NGUYEN THI HONG NHI

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ABBREVIATIONS LIST

Abbreviation	Full description
BMI	body mass index
CS	Cushing syndrome
CVD	cardiovascular disease
DM	diabetes mellitus
EULAR	European League Against Rheumatism
GOPPS	Global Osteoarthritis Patient Perception Survey
HF	heart failure
NICE	National Institute for Health and Care Excellence
NSAIDs	nonsteroidal anti-inflammatory drugs
OA	osteoarthritis
WHO	World Health Organization

Abstract

Introduction: Osteoarthritis (OA) is a degenerative joint disease. Self- management is the key in controlling chronic disease such as OA. The knowledge, attitude and belief about the disease affects how patients manage their condition. This study aims to evaluate the knowledge and practice of OA patients. Based on the data in this study, we would help correct the related policies to improve self-management ability among OA patients.

Aims: *Primary objectives:* To investigate the level of knowledge and practice among OA patients. *Secondary objectives:* Suggest proper policies to help improve OA management among those patients.

Method: The study is a cross- sectional study. Convenient sampling was employed at 108 Military Central hospital and Vinmec hospital from May to November 2023.

Result: There are 20.2% and 17.9% of patients have knowledge about common causes/risk factors and OA therapies, respectively. 57% of patients are not adequately explained about their illness. 53.6% of patients receive information about OA from social media platforms. 41.7% of patients admit to lacking awareness of suitable exercises for managing OA. About 10.7% of patients could manage joint pain. 58.3% of individuals with OA self-administer medication without guidance from a physician.

Conclusion: Osteoarthritis patients have insufficient understanding of their condition. Specifically, 63.1% of patients are unaware of the common causes of osteoarthritis, and 67.9% are not knowledgeable about the available therapies. Physicians should explain to patients the cause/risk factors of OA, how to manage pain and improve joint function and provide them with short papers, brochures, and other sources of information.

Introduction

Osteoarthritis is a degenerative joint disease which affect more than 240 million individuals globally [1]. It is reported that osteoarthritis causes disability in 43 million individuals on the scale of moderate to severe and ranks as the 11th most debilitating condition over the world [2]. Knee pain is powerfully connected to knee OA [3]. In Vietnam, a developing country with more than 90 million people, there is no data about neither OA nor knee OA prevalence. However, about 18% of people aged 16 and older reported knee pain [3].

Self-management is the key in controlling chronic disease, OA is not an exception. American College of Rheumatology/Arthritis Foundation and the National Institute for Health and Care Excellence (NICE) released the updated guideline for the management of osteoarthritis in 2019 and 2022, respectively. The two guidelines provide direction for physician and patient with valuable recommendations. The guidelines emphasized that pharmacological and non-pharmacological measures help to control the pain and improve joint function [4, 5].

The knowledge, attitude and belief about the disease affects how patients manage their condition at home as well as reach out to the support from health workers. According to a study conducted in Saudi Arabia, 82.6% of the sampled population had proper consciousness about OA on average [6]. In Vietnam, there is limited research about OA patient's knowledge. Rarely, in 2014, a cross-sectional study was conducted on 70 patients. The result showed that 54.3% and 61.4% of them did not recognize daily work or obesity as a risk factor of OA, respectively [7].

In recent decades, the social media has been grown in very sharp speed in Vietnam. The number of people use the internet rose from 30.7% in 2010 to 70.3% in 2018 [8]. Impressively, there are more than 76 million social media users in this developing country in January 2022 [8]. Nowadays, patients may easily get information as well as purchase medicine from many sources such as leaflets, YouTube, Facebook, Google, television. Although the information pertains to health science, most of it lacks verification by any authoritative body. In recent years, numerous patients with osteoarthritis have been observed by researcher to exhibit a Cushingoid appearance upon presentation at the hospital.

This study aims to evaluate the knowledge and practice in OA among OA patients at 108 Military Central hospital and Vinmec hospital from May to November 2023. Evaluating information serves as a foundational cornerstone for any educational program. It marks the initial stage in the evaluation process, upon which all subsequent steps of health education programs are constructed.

Chapter 1: Overview

1.1 Osteoarthritis

1.1.1 Definition

Osteoarthritis is well known as a degenerative joint disease [1]. It is usually found in hands, knees, hips, and feet in elderly. Osteoarthritis impacts the entire joint, encompassing the surrounding tissues, leading to swelling and rigidity, which hinders an individual's capacity to move with ease [9]. OA is an irreversible progressive process that causes stress, affects daily activity, and eventually causes disability.

1.1.2 Epidemiology

In 2019, osteoarthritis affects around 528 million individuals globally, noticed an increase of 113% since 1990 [10]. It is reported that osteoarthritis causes disability in 43 million individuals on the scale of moderate to severe and ranks as the 11th most debilitating condition over the world [2]. As populations age and rates of obesity and injuries rise, the global prevalence of osteoarthritis is anticipated to persistently grow [9].

Affecting joints with a prevalence of 365 million, the knee is the most commonly impacted, followed by the hip and hand [11]. The knee OA prevalence increasingly as population aging over time. Knee pain is powerfully connected to knee OA [3]. Among people greater than 45 years old, about 15% of them have knee symptoms attributed to OA [1]. In Vietnam, a developing country with more than 90 million people, there is no data about neither OA nor knee OA prevalence. However, about 18% of people aged 16 and older reported knee pain [3].

1.1.3 Etiology

Risk factors for osteoarthritis development encompass age, female gender, obesity, anatomical factors, muscle weakness, and joint injury related to occupation or sports activities. Primary osteoarthritis, the most prevalent subset of the condition, is diagnosed when there is no predisposing trauma or disease but is correlated with the aforementioned risk factors [2].

The robust association with age is partially ascribed to biochemical alterations in the matrix, which contains proteoglycans and collagen fibers, of hyaline articular cartilage in synovial joints. Additionally, chondrocytes in older individuals exhibit diminished capacity to produce proteoglycans, thereby compromising the integrity of the cartilage matrix and rendering the joints more vulnerable to osteoarthritis [12].

While osteoarthritis affects individuals of all races, there are noteworthy differences in prevalence and joint involvement among various racial groups. For instance, hip osteoarthritis is less common in the Chinese population, and it is hypothesized that squatting practices may

provide a protective effect on the hip. Additionally, osteoarthritis is prevalent in rural Asian communities, often linked to substantial physical occupational activity [13].

Genetic factors play a significant role in osteoarthritis, as indicated by recent studies. Notably, in female twins, these factors have been found to be particularly influential in OA affecting the knee and hip. In only a few rare instances is a single gene implicated, while it is more likely that the development and progression of OA result from interactions among multiple genes. These genes include those governing growth and differentiation, specific factors controlling joint erosion or destruction, and inflammation, including nociception. Many researches have pinpointed a 300-kilobase region on chromosome 7q22 associated with susceptibility to the risk of osteoarthritis [14].

Secondary osteoarthritis manifests in the presence of a preexisting joint abnormality, with predisposing conditions encompassing trauma or injury, Paget's disease, osteochondritis dissecans, congenital joint disorders, avascular necrosis, infectious arthritis, osteopetrosis, inflammatory arthritis, metabolic disorders (such as hemochromatosis, Wilson's disease), or Marfan syndrome [15].

Congenital factors contribute to osteoarthritis, including localized diseases such as congenital hip dislocation, Legg-Calvé-Perthes disease, and slipped femoral epiphysis. Bone dysplasia, such as multiple epiphyseal dysplasia and spondyloepiphyseal dysplasia, as well as malposition (varus/valgus), are also implicated in the development of osteoarthritis. In term of trauma, both acute and chronic conditions can affect the joint or nearby bone, leading to malalignment. Metabolic factors contribute to osteoarthritis, including conditions such as calcium pyrophosphate dihydrate disease, ochronosis, rickets, hemochromatosis, and hepato-lenticular degeneration in Wilson's disease. Endocrine factors, such as acromegaly, diabetes mellitus, and obesity, can contribute to osteoarthritis. Additionally, joint diseases like septic arthritis, rheumatoid arthritis, and gout are associated with the development of osteoarthritis. Neurological factors, including Charcot's arthropathy (associated with tabes dorsales, diabetes, syringomyelia, and Charcot-Marie-Tooth disease), can contribute to osteoarthritis. Additionally, vascular factors, such as avascular necrosis, and bone diseases like Paget's disease of bone (osteitis deformans), are associated with the development of osteoarthritis [16].

1.1.4 Pathophysiology

OA affects the entire joint without sparing any tissues. The etiology of OA involves a complex interplay of risk factors (as mentioned above), mechanical stress, and abnormal joint mechanics. This combination triggers the release of pro-inflammatory markers and proteases, ultimately

mediating joint destruction. However, the full pathway leading to the comprehensive destruction of the entire joint remains unknown [2].

In healthy individuals, the synovial joints feature a thin layer of hyaline cartilage covering the articulating surfaces, resting upon the subchondral bone, akin to a protective layer (17). This cartilage plays a dual role by reducing friction and evenly distributing the force exerted by loads onto the underlying bone. However, the cartilage itself is too thin to bear the load [17].

Chondrocytes, the cells in cartilage, play a pivotal role in producing components of the extracellular matrix, including proteoglycans and predominantly type II collagen fibers. Collagen provides the cartilage with tensile strength, while proteoglycan aggregates, known as aggrecans, contribute compressive strength. Aggrecans consist of glycosaminoglycans, including keratan sulfate, bound to a protein core. These proteoglycan aggrecans are linked to hyaluronate through link protein, creating a structural appearance resembling a test-tube brush in the matrix. Proteoglycan aggrecans have a high binding capacity for water, contributing to the abundant and hydrated matrix of hyaline cartilage. In the early stages of OA, there is a noticeable increase in the water content of hyaline cartilage, accompanied by corresponding decreases in proteoglycan concentration, length, and aggregation. These changes result in decreased cartilage stiffness and the development of a rough surface appearance known as fibrillation. Severe fibrillation leads to the formation of deep clefts that cannot be repaired despite the efforts of chondrocytes, ultimately causing cartilage erosion. Concomitant with cartilage damage, morphological changes occur in the subchondral bone. The infiltration of synovial fluid leads to the formation of subarticular cysts (geodes) in the subchondral bone. Bone flattening due to pressure results in the development of bony projections, referred to as osteophytes, in non-pressure areas of the joint [14].

The changes in joint in OA include these key features that listed below [14]:

1. **Cartilage destruction:** Principally caused by pro-inflammatory cytokines, IL-1 β , and TNF α , which are generated by inflamed synovium and invading leucocytes. These cytokines lead to the release of matrix metalloproteinases (MMPs) from both synovium and cartilage.
2. **Subchondral bone remodeling:** Involves the resorption of bone mediated by catabolic molecular pathways, such as receptor activator of nuclear factor-kappa B (NF κ B) (RANK) and its ligand RANK-L, cathepsin K, as well as anabolic signaling in new bone modeling.
3. **Hypertrophic differentiation of chondrocytes:** Refers to the enlargement and abnormal differentiation of chondrocytes.

4. Neovascularization of synovial tissue: Involves the formation of new blood vessels in the synovial membrane.
5. Focal calcification of joint cartilage: Occurs as mineral deposits accumulate in specific areas of the joint cartilage.
6. Production of mesenchymal stem cells: Part of the homeostatic compensatory mechanisms involved in regeneration, where mesenchymal stem cells play a role in the body's attempt to restore and repair damaged tissue.

These multifaceted processes collectively contribute to the complex pathogenesis of osteoarthritis, involving inflammatory responses, structural changes in cartilage and bone, and attempts at tissue regeneration.

1.1.5 Clinical Manifestations and Diagnosis

There is a notable inconsistency between radiographic evidence of OA in patients and the manifestation of symptoms, particularly in cases of knee osteoarthritis [18]. Early studies in epidemiology found that symptoms were present in only 15% of individuals with documented radiographic evidence of osteoarthritis [19] [20].

According to the World Health Organization (WHO), osteoarthritis symptoms encompass pain, swelling, stiffness, and difficulty moving the affected joint. Reduced mobility can lead to muscle weakness, limiting one's ability to engage in physical activities. While osteoarthritis can impact any joint, it is most observed in the knees, hips, spine, and small joints in the hands. The muscles and tissues surrounding the joint are frequently affected. Symptoms may develop gradually or suddenly following an injury or strain. Osteoarthritis is a chronic and often progressive condition, with changes occurring gradually over time. In severe cases, it can render the joint unusable and result in persistent pain, with some individuals experiencing discomfort even at rest [9].

OA is established through a clinical diagnosis, and confidence in diagnosis is warranted when the following criteria are met: 1) pain exacerbation with activity and alleviation with rest, 2) age exceeding 45 years, 3) morning stiffness lasting less than 30 minutes, 4) evident bony joint enlargement, and 5) observed limitation in the range of motion. A comprehensive differential diagnosis should encompass conditions such as rheumatoid arthritis, psoriatic arthritis, crystalline arthritis, hemochromatosis, bursitis, avascular necrosis, tendinitis, radiculopathy, and various other soft tissue abnormalities [2].

According to the NICE, clinical diagnosis of osteoarthritis is recommended without the routine use of imaging in individuals aged 45 or over. This diagnosis is based on the presence of activity-related joint pain and either the absence of morning joint-related stiffness or morning

stiffness lasting no longer than 30 minutes. NICE advises against routine imaging for osteoarthritis unless there are atypical features or indications suggesting an alternative or additional diagnosis [5].

1.1.6 Comorbidities and complications

For diabetes mellitus (DM) type 2, the association with OA varies based on the joint site. Specifically, there is a significant link between DM and both hand OA and knee OA, but no such association has been observed with hip OA. This variation may be partly explained by the influence of obesity. In a 10-year cohort study involving 1675 participants, a high body mass index (BMI >30 kg/m²) was notably associated with hand OA and knee OA but not with hip OA [21].

Cardiovascular disease (CVD): A meta-analysis overview has indicated a higher risk of CVD, specifically heart failure and ischemic heart disease, in individuals with OA. The mechanisms underlying the association between OA and CVD remain somewhat unclear. The knowledge gap is partly attributed to a lack of appropriate research design, and there are also distinct disease-management factors in OA and CVD that contribute to the complexity of this relationship. For instance, commonly used medications for OA, such as nonsteroidal anti-inflammatory drugs (NSAIDs), may increase the risk of CVD. Additionally, the typically reduced levels of physical activity in OA patients can be detrimental to the management of cardiovascular diseases [22].

Complications of OA encompass various challenges, including [2]:

1. Pain: Persistent and often debilitating discomfort associated with the affected joints.
2. Falls: Increased risk of falls, which can lead to injuries and further complications.
3. Difficulty ambulation: Impaired ability to walk or move, affecting overall mobility.
4. Joint malalignment: Disruption of proper joint alignment, contributing to altered joint mechanics.
5. Decreased range of motion: Restricted movement in the affected joint, limiting flexibility and function.
6. Radiculopathies: Nerve-related issues, such as radiculopathies, which can result in pain, numbness, or weakness radiating from the spine to other areas of the body.

Complications linked to non-surgical treatments for osteoarthritis are primarily associated with the use of NSAIDs. These complications may include:

1. Stomach pain and heartburn: Gastrointestinal discomfort and acid reflux.
2. Stomach ulcers: Open sores in the stomach lining, which can lead to bleeding and other complications.

3. Tendency to bleed: Increased risk of bleeding, especially while taking aspirin or other blood-thinning medications.
4. Kidney problems: NSAIDs may affect kidney function, leading to potential issues with renal health.

1.1.7 Management

OA management: The backbone treatments in OA management are therapeutic exercise and maintain a suitable weight, the management are guided by patients' clinical picture including symptoms and physical function [5]. It is emphasized that any amount of weight loss is helpful [5].

The NICE guidelines emphasize that the management of osteoarthritis should be tailored to the individual's symptoms and physical function. Core treatments for the condition include therapeutic exercise and weight management (if appropriate). Additionally, providing information and support is considered integral to the overall management approach for individuals with osteoarthritis [5].

For all individuals with osteoarthritis, it is recommended to provide therapeutic exercise customized to their specific needs. This may include exercises focused on local muscle strengthening and general aerobic fitness. It's important to note that joint pain may increase initially when starting therapeutic exercise. Physicians should inform patients that engaging in regular and consistent exercise, despite potential initial discomfort, will be beneficial for their joints. Long-term adherence to an exercise plan enhances its benefits by reducing pain and improving overall functioning and quality of life [5]. Individuals with osteoarthritis should be aware that any amount of weight loss is likely to be beneficial for their condition. However, the guideline suggests that achieving a weight loss of 10% of their body weight is likely to be more advantageous than a 5% reduction. This emphasizes the importance of weight management as a significant factor in managing osteoarthritis and improving overall joint health.

Clinically important benefits in managing osteoarthritis symptoms continue to increase with weight loss across different ranges: 5–10%, 10–20%, and >20% of body weight. The effectiveness of weight loss for symptom management in osteoarthritis is further enhanced when combined with a concurrent exercise program. This underscores the synergistic impact of weight loss and regular exercise in improving outcomes for individuals with osteoarthritis [4]. There are many erroneous conceptions in OA management related to physical therapy, particularly the kind of recommended exercises. The patients tend to be inactive because they believe that exercise can worsen the pain. In fact, patients get long-term benefit from do regular exercise regarding pain relief, joint function and quality of life although it can cause discomfort

at the beginning [5]. American College of Rheumatology and Arthritis Foundation recommended that many exercises can be apply for OA patient such as aerobic exercises (walking, cycling on stationary bicycles), strengthening exercise, balance exercises, aquatic exercise and mind-body practice like Yoga, Taichi [4].

For patients with knee, hip, and/or hand osteoarthritis, it is strongly recommended to engage in self-efficacy and self-management programs. These programs empower individuals to take an active role in their care, enhance their confidence in managing symptoms, and promote a better quality of life despite the challenges posed by osteoarthritis in these joints [4].

Pharmacological treatments should be used at the lowest effective dose to control symptoms for as short a period as possible. Many agents could be given, for example: topical NSAID, topical capsaicin, oral NSAID. Intra-articular glucocorticoid could be given for OA patients if other treatments showed no improvement in some special scenarios. Regarding paracetamol, it is not recommended routinely because it has no supplementary assistance in decreasing OA-induced pain comparing to placebo as well as improving physical function [5]. However, if patient had restricted pharmacologic options, for example has NSAIDs contraindications, acetaminophen could be use in the short-term periods [4]. In the management of OA, topical NSAIDs are strongly recommended for patients with knee OA and conditionally recommended for patients with hand OA. However, it's important to note that oral NSAIDs remain the primary pharmacologic intervention for OA, and their use is strongly recommended. Numerous trials have established the short-term efficacy of oral NSAIDs. Regardless of the anatomic location of OA, oral NSAIDs are considered the initial oral medication of choice and are recommended over all other available oral medications [4].

Intraarticular glucocorticoid injections, compared to other types of injections, are conditionally recommended for patients with knee, hip, and/or hand OA. This suggests that while there is a recommendation for their use, there may be specific conditions or circumstances that influence the decision to opt for intraarticular glucocorticoid injections over alternative injection options in the management of OA in these joints. Individual patient characteristics and preferences may play a role in determining the most appropriate treatment approach [4]. Cushing syndrome (CS) is caused by chronic exposure to high levels of glucocorticoids in bloodstream. The cortisol sources could be exogenous or endogenous. The most common cause of exogenous CS is prolonged corticosteroid use [24]. In clinical practice, patient may present with Cushingoid appearance with moon face, acne, paper-thin skin with purple striae, fat deposits in dorsocervical and supraclavicular areas cause “Buffalo torso”, thin arms and legs, hirsutism [24]. Patient with CS have higher morbidity and mortality compared to the general

population because the negative effects of high extended cortisol levels leading to many consequences such as diabetes, heart disease, adrenal insufficiency, osteoporosis-induced fracture, immunocompromised status [25].

The collective findings from all studies demonstrate substantial benefits of combining acupuncture with active exercise training. This combination shows significant improvements in the total effective rate, pain reduction, promotion of knee function recovery, and expansion of range of motion [23].

Chapter 2: Methodology and Research Design

2.1 Materials and Methods

2.1.1 Research Methodology

The study is a cross-sectional study on OA patients who were presented because of acute flare at 108 Military Central hospital and Vinmec hospital from May to November 2023. The convenient sampling was employed. The data were collected and documented following a questionnaire through the interview conducted by researcher.

Cross-sectional study is suitable for this research because it helps collect data on the prevalence and risk factors of a condition in a particular sample. In this research, it helps to show the prevalence of patients who have the right knowledge and practice in OA management and reveal the underlying causes affect their behaviors. The data collection process was conducted from May to November 2023. Observational study helped to quickly gather information in a short amount of time. This kind of research provides data about the kinship between varied variables, for example, the relation between patient's adherence and many elements such as income, disease duration, physician's explanation about the disease as well as treatment plan.

Convenient sampling was utilized in this study because the researchers have boundary time and resources. It is a cost-effective and time-efficient manner to gather information.

The questionnaire consists of the Global Osteoarthritis Patient Perception Survey (GOAPPS) which were employed in many countries [26] and additional questions to clarify the research purpose. It includes patient demographics, clinical symptoms, perception of disease and treatment, information absorbed, the effects of OA on daily life, treatment practice.

The patient was interviewed instead of self-administered questionnaires fulfilled by themselves. The interviewer helped clarify any misunderstanding, preventing measurement errors. Although conducting interviews do not allow for great anonymity as self-administered questionnaires, the research topic is not sensitive thence patients could give honest and accurate answers.

2.1.2 Independent and Dependent Variables

Independent variables: education level, occupation, living area, income, time since patient was diagnosed, proper information access ability. Dependent variables: knowledge, practice in management OA.

Confounding variables: the confounding variables in this study are expected to appear in the interview session. They are factors that affect the questionnaire result: emotion, their mental health status, willingness, awareness of the role of accuracy data in the study.

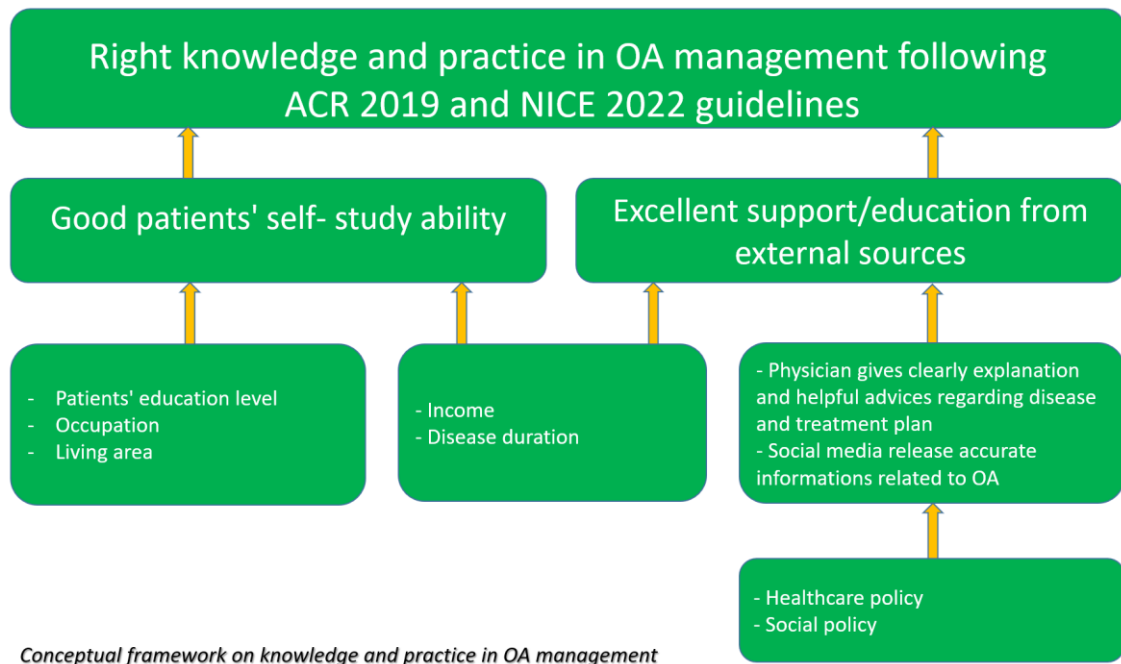


Figure 2.1.1

2.1.3 Study Populations

The study was aimed at OA patients seek health care service due to acute attack at 108 Military Central hospital and Vinmec with a total sample size of 84.

The size of sample was calculated following the formula for one-sample study with $P= 0.5$, $d=0.1$:

$$n = \frac{Z_{1-\frac{\alpha}{2}}^2 P(1 - P)}{d^2}$$

The researcher decided to choose the precision is 10% and prevalence is 50% based on result from previous research [7].

According to the formula, the minimal sample size was 96. However, the researcher had limited time therefore only 84 patients were recruited.

OA diagnosis criteria: patient age 45 and older with the following features: pain worse with activity but relief by rest, experience morning stiffness under 30 minutes, having evidence of bony joint expansion and the range of motion is limited [2].

Inclusion criteria: OA patient present because of acute attack (sudden increase in joint pain and other symptoms).

Exclusion criteria:

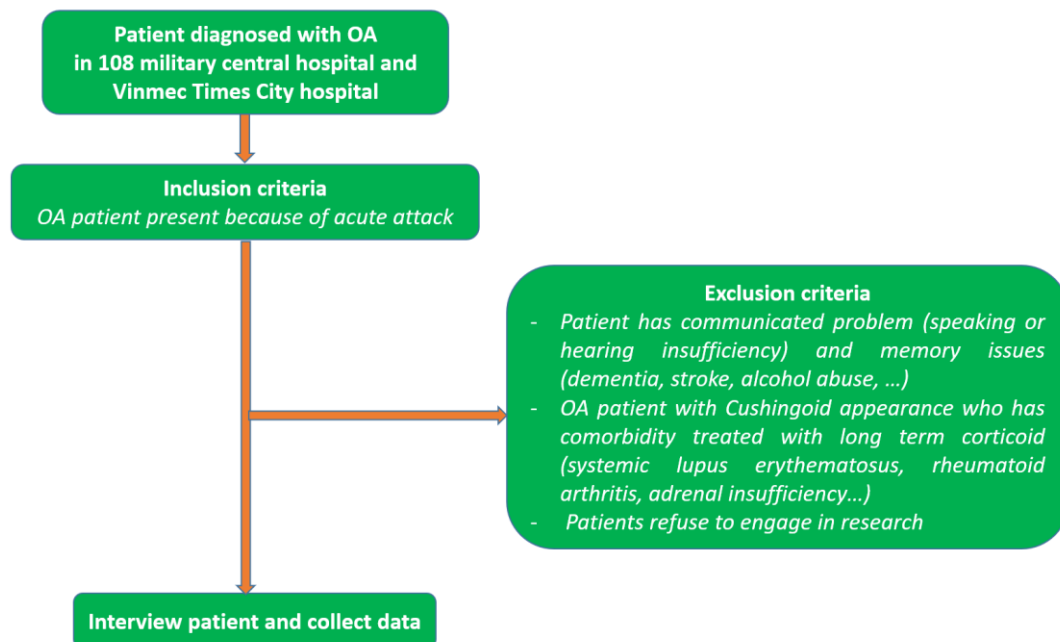
- Patient has communicated problem (speaking or hearing insufficiency) and memory issues (dementia, stroke, alcohol abuse, ...)
- OA patient with Cushingoid appearance who has comorbidity treated with long term corticoid (systemic lupus erythematosus, rheumatoid arthritis, adrenal insufficiency...)
- Patients refuse to engage in research.

2.1.4 Recruitment Process and Data Collection

- Recruitment process: All participants who fulfilled inclusion and exclusion criteria will be enrolled to the study after obtaining consent forms.

- Data collection: Data were collected via the interview following the questionnaire conducted by researcher including below information:

- socio-demographic: age, sex, occupation, education level, living area
- clinical manifestation: severity of the pain, duration of disease
- perception of disease and treatment, information absorbed
- patients' practice regarding OA



Flow chart of recruitment process

Figure 2.1.2

2.1.5 Analytical Strategy

We conduct all the analysis with the software Statistical Package for the Social Sciences (SPSS) version 22.0. SPSS calculates means for multiple variables simultaneously with a high

level of accuracy. SPSS allows researchers to easily import data and generate reports. The use of SPSS can help researchers to save time, minimize errors, and generate more accurate and informative results. The t- student test will be used to compare the means. The difference was statistically significant with $p < 0.05$.

2.2 Ethical Implication

The study was improbable to give any harm to patients. Informed consent was delivered to the patient before registering in the research. The participants not only were given no harm but also get benefit from the study because they are provided with proper information after completing the questionnaire. Moreover, they were guaranteed that all private data were de-identified and used for research purposes only. The research was approved by the research ethics committee conducted by VinUniversity (No 51/2023/QĐ-VMEC on 23 June 2023).

2.3 Validity and reliability

The questionnaire was developed from the Global Osteoarthritis Patient Perception Survey (GOPPS) used in a large pilot study [26]. The GOPPS English version was translated to Vietnamese. A Vietnamese rheumatologist who are familiar with relevant terminology and fluent in English has responsibility for revise the translation. To determine the remaining research objectives, some questions were added and verified by experts including rheumatologist and epidemiologist.

The major drawback of convenient sampling is that sample may not be representative of the study population and therefore cause biased results. The confounding variables in this study are expected to appear in the interview session. Various factors influence the outcome of the questionnaire, including emotions, mental health status, willingness, and awareness of the importance of accurate data in the study. In specific circumstances, individuals experiencing psychological distress may manifest a proclivity to inflate the perception of their condition, whereas conversely, individuals demonstrating an optimistic disposition may incline towards minimizing the gravity of their health-related concerns. To control the confounding bias, the patient was asked to take a rest and practice deep breath for 5 minutes before being interviewed. The patients were explained the importance of accurate data to the research result. They were cognizant that the outcomes would contribute to the formulation of policies aimed at enhancing their health status, irrespective of whether the responses were positive or negative, provided that they conveyed honest and precise data.

There was one researcher who is responsible for interviewing entire patients following the established recruitment process. Therefore, all patients were treated equally.

2.4 Limitation

The main limitation of the proposed study relates to the sample size. Due to the limited time frame of the research, the number of patients included in this study is small. Additionally, although the study was conducted in two centers, it is still difficult to generalize the findings to other populations.

Chapter 3: Results

3.1 Demographic Characteristics

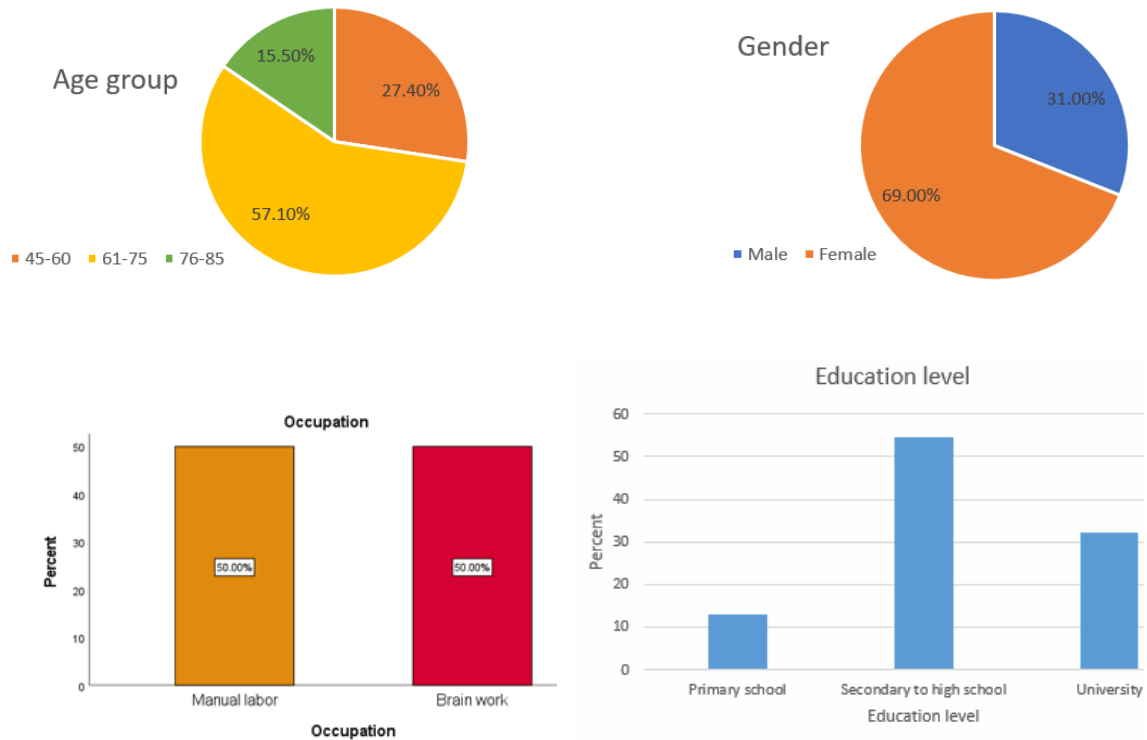


Figure 3.1: Demographic characteristics of study population

The proportion of individuals engaged in manual labor and cognitive work is identical, with each group comprising 50%. Participants with education levels ranging from primary school, secondary to high school, and university constitute 13.1%, 54.8%, and 32.1%, respectively. Approximately 69% of the population resides in urban areas, while 31% resides in rural regions. In terms of gender distribution, 31% are male, and 69% are female. The average age of the participants is 66 years, with a standard deviation of 9.6 years. They are categorized into three age groups: 45-60, 61-75, and 76-85, representing 27.4%, 57.1%, and 15.5% of the population, respectively.

According to *table 3.1* below, there are no discernible distinctions among participants at 108 Military Central hospital and Vinmec hospital in terms of occupation, education level, and living area, except for age groups. The participants' occupations are categorized into two groups: manual labor and brain work, with a P-value of 0.306 between the two institutions. Education levels are stratified into three categories: primary school, secondary to high school, and university, yielding a P-value of 0.368. The living areas are characterized as urban and rural, and the associated P-value is 0.077. Notably, a statistically significant difference is observed in the distribution of age groups, which includes three subgroups: 45-60 years old, 61-75 years old, and over 75 years old, with a P-value of 0.034.

		Hospital				P value
		108 Military		Vinmec		
		Count	Column N %	Count	Column N %	
Occupation	Manual labor	34	53.1%	8	40.0%	0.306
	Non- manual labor	30	46.9%	12	60.0%	
Education level	Primary school	9	14.1%	2	10.0%	0.368
	Secondary to high school	37	57.8%	9	45.0%	
	University	18	28.1%	9	45.0%	
Living area	Urban	41	64.1%	17	85.0%	0.077
	Rural	23	35.9%	3	15.0%	
Age group	45-60	13	20.3%	10	50.0%	0.034
	61-75	40	62.5%	8	40.0%	
	76-85	11	17.2%	2	10.0%	

Table 3.1: Demographic data of study population in 108 Military Central Hospital and Vinmec Hospital

3.2 Osteoarthritis Joint and Comorbidities

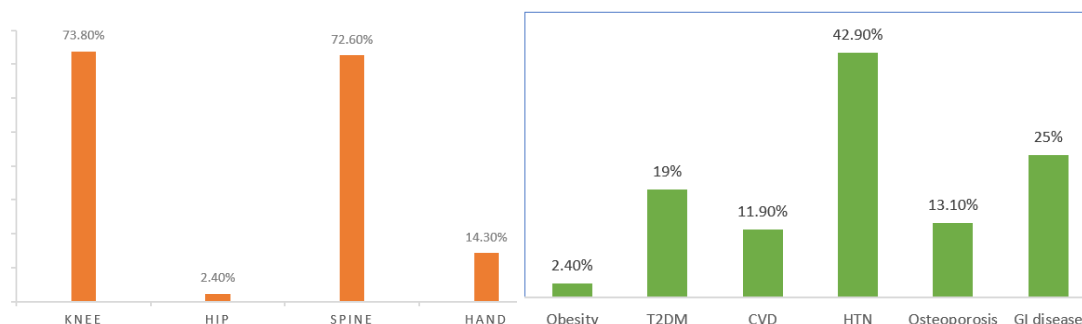


Figure 3.2: Location of affected joint and comorbidities among the study population. Within the category of joints affected, knee OA and spinal OA exhibit the highest prevalence rates at 73.8% and 72.6%, respectively. Following closely are OA in the hand and hip, with rates of 14.3% and 2.4%, respectively.

In terms of comorbidities, hypertension has the highest incidence, accounting for 42.9%. This is followed by gastrointestinal disease, diabetes mellitus type 2, and osteoporosis, with rates of 25%, 19%, and 13.1%, respectively. Cardiovascular disease and obesity have lower rates, standing at 11.9% and 2.4%, respectively.

3.3 Clinical Manifestation and Complications

The table below presents a summary of the clinical features observed in the study population. Most participants, accounting for 86.9%, reported joint pain. Other prevalent complaints included abnormal gait (60.7%), sleep disorders (17.9%), rigidity (16.7%), joint swelling (13.1%), and limited range of motion (11.9%). Fatigue and joint popping sounds were less common, reported by 9.5% and 4.8% of the population, respectively. The limitations experienced by participants extended to social interactions (57.1%), work activities (54.8%), and physical activities (36.9%). Mental health concerns related to emotions induced by OA were voiced by 13.1% of individuals. Notably, a significant portion of the population, comprising 13%, exhibited Cushing appearance.

Sign, symptom, and complications	N	Percent of cases
Joint pain	73	86.9%
Joint swelling	11	13.1%
Limited range of motion	10	11.9%
Joint popping sounds	4	4.8%
Rigid	14	16.7%
Abnormal gait	51	60.7%
Sleep disorder	15	17.9%
Fatigue	8	9.5%
Limitations to physical activities	31	36.9%
Limitations to social interactions	48	57.1%
Limitations to work activities	46	54.8%
Emotional, psychological, or mental health issues	11	13.1%
Cushingoid appearance	13	15.5%

Table 3.3: Clinical feature and complications among the study population

3.3 Knowledge of Patient and Causes of Perceptive

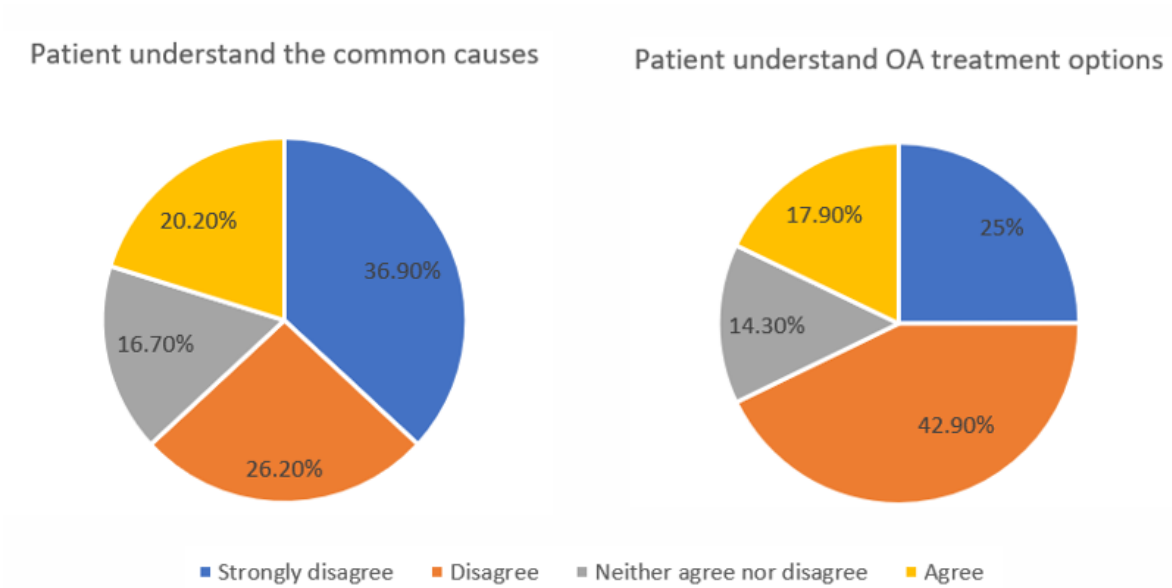


Figure 3.4.1: The level of agreement regarding the understanding of patient about the causes of OA and treatment options

This figure illustrates the extent of consensus regarding patients' comprehension of the causes of OA and available treatment options. In relation to the causes of OA, 36.9% and 26.2% express strong disagreement or disagreement with the notion that they comprehend its common causes, respectively. Those who agree that they understand constitute 20.2% of participants. A total of 14 participants (16.7%) indicate a neutral stance. Regarding treatment options, 25% and 42.9% of participants strongly disagree or disagree with the statement that they understand these options, respectively. Participants who agree that they are knowledgeable account for 17.9%. Twelve participants (14.3%) report a neutral position.

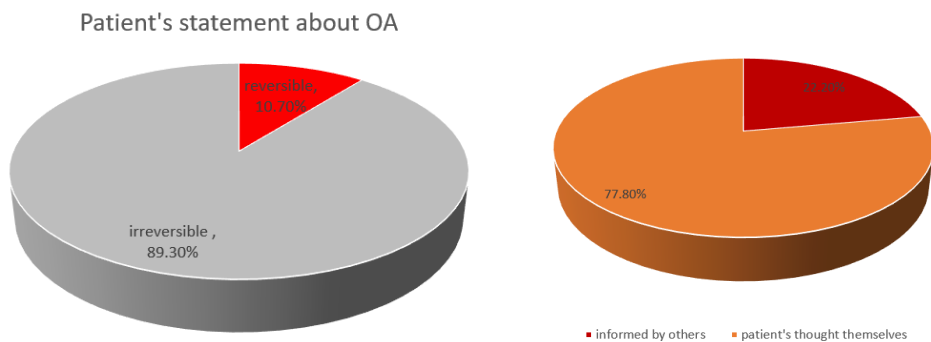


Figure 3.4.2: Factors influencing patient perception about reversible OA

Nine participants (constituting 10.7%) hold the belief that OA is a reversible disease. Out of these, two participants acquired this belief from their relatives, while seven developed it independently.

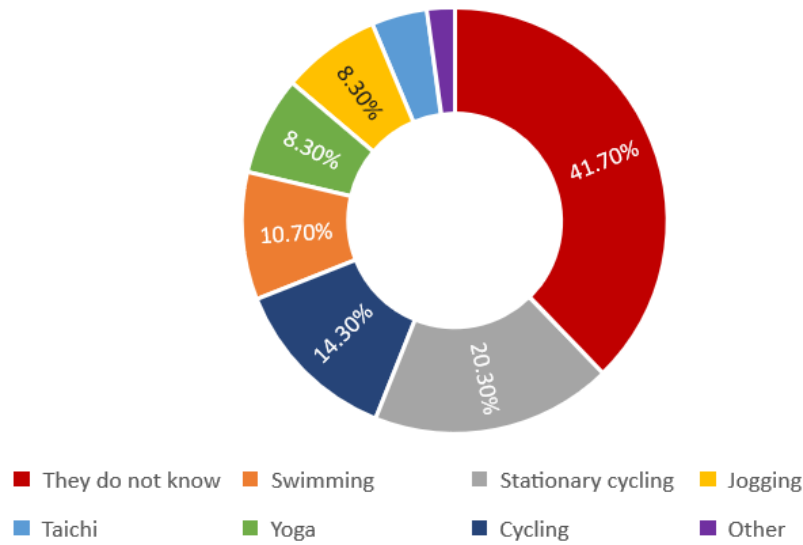


Figure 3.4.3: Knowledge of patient about exercises

A total of 95.2% of participants express agreement with the idea of maintaining an active lifestyle, which involves daily exercise. Within this demographic, 41.7% (35 people) admit to not being aware of suitable exercises for their osteoarthritis (OA). Among those knowledgeable about appropriate exercises, 20.3% (17 individuals) recognize stationary cycling, while 14.3% (12 individuals) endorse regular cycling as suitable for OA. Other identified exercises include swimming (10.7%), jogging (8.3%), yoga (8.3%), and Tai Chi (4.7%).

3.4 Patient’s Practice on OA Management

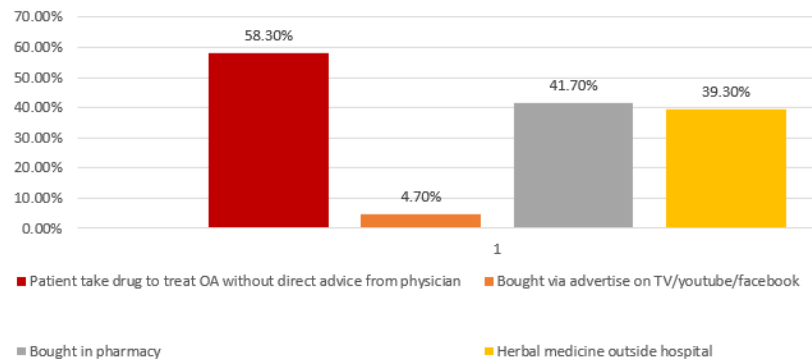


Figure 3.5.1: Source of non- prescription medication

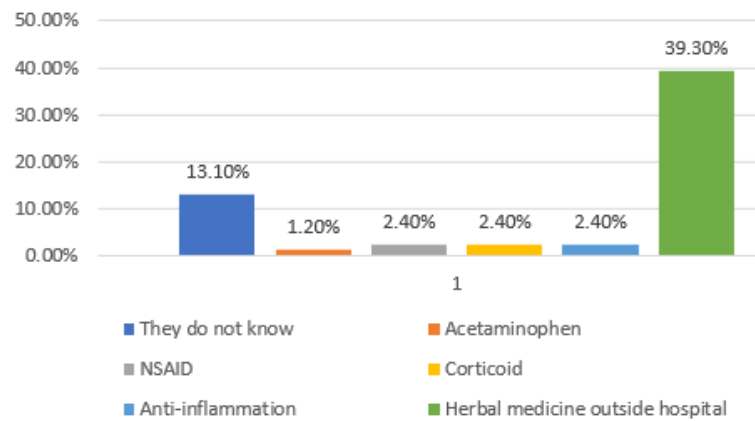


Figure 3.5.2: Name of non- prescription medication

Within the study population, 58.3% (49 people) use medication to treat osteoarthritis (OA) without receiving direct advice from a physician. Among these individuals, 41.7% (35 people) purchase drugs directly from pharmacy stores. Additionally, 39.3% opt for herbal medicine obtained outside of a hospital setting. Notably, 4.7% of the study population acquire medication through advertisements on social media platforms (television, YouTube channels, Facebook, etc.). Among the 49 individuals, approximately 19% (16 people) and 34.5% (29 people) express that they buy medication because it's convenient for them and they believe it can help, respectively. 13.1% (11 people) are unable to recall the name of the drug they purchase. NSAIDs, corticoids, and anti-inflammatory medicine were each reported by 2.4% of individuals.

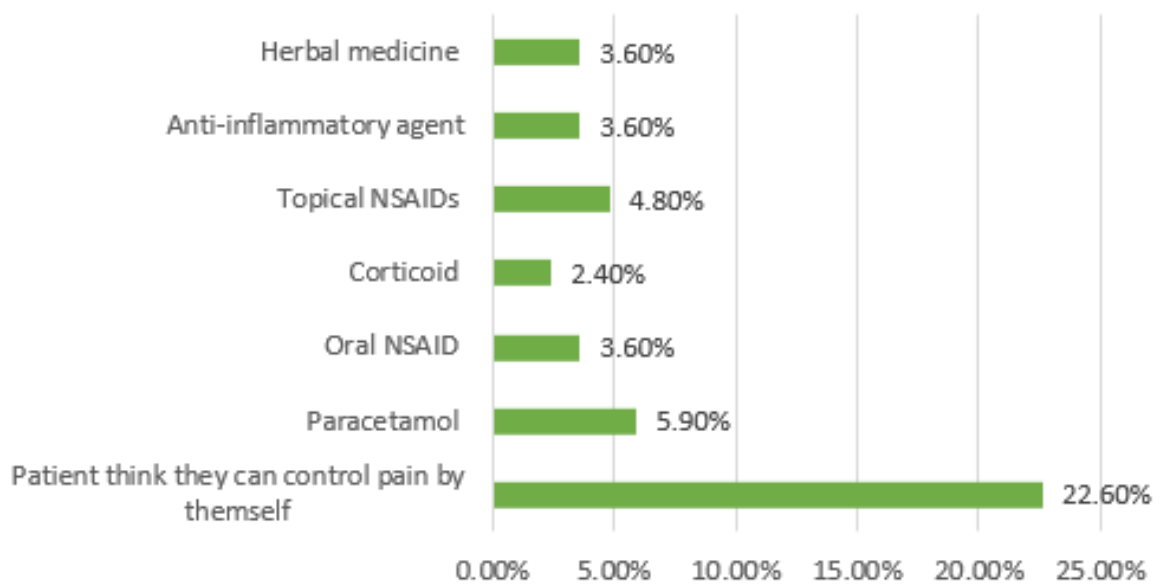


Figure 3.5.3: Medication help patient to manage OA flare

Nineteen individuals, constituting 22.6% of the study population, believe they can personally control flare-ups of osteoarthritis (OA). Regarding pain management, 5.9% (5 people) endorse the use of acetaminophen, followed by topical NSAIDs, anti-inflammatory agents, herbal medicine, oral NSAIDs, and corticoids, each mentioned by 4.8%, 3.6%, 3.6%, 3.6%, and 2.4%, respectively.

		Cushing appearance				P values
		No		Yes		
		N	Row N%	N	Row N%	
Taken drug without advice from physician	No	35	100	0	0	<0.001
	Yes	36	73.5	13	26.5	
Bought via advertise on social media	No	69	86.3%	11	13.8%	0.05
	Yes	2	50.0%	2	50.0%	
Bought in pharmacy	No	45	91.8%	4	8.2%	0.028
	Yes	26	74.3%	9	25.7%	
Herbal medicine which is not from hospital	No	50	98.0%	1	2.0%	<0.001
	Yes	21	63.6%	12	36.4%	

Table 3.5: Source of non-prescription medication

Out of the 13 patients exhibiting Cushingoid appearance, all are using medication to treat osteoarthritis without receiving direct advice from physicians. Four individuals mentioned purchasing medicine through advertisements on social media platforms like TV, YouTube, or Facebook. Interestingly, half of them (50%) developed Cushing syndrome. Among patients with Cushing's syndrome, 25.7% exhibit self-medication behavior by purchasing drugs from pharmacies, a significantly higher percentage compared to those without this behavior (8.2%), with a statistically significant difference at $P < 0.028$. Additionally, within this group of 13 patients, 36.4% use herbal medicine for treating the condition, which is significantly higher than the percentage among patients not using herbal medicine (2%), with a statistically significant difference, $P < 0.001$.

3.5 Role of Physician

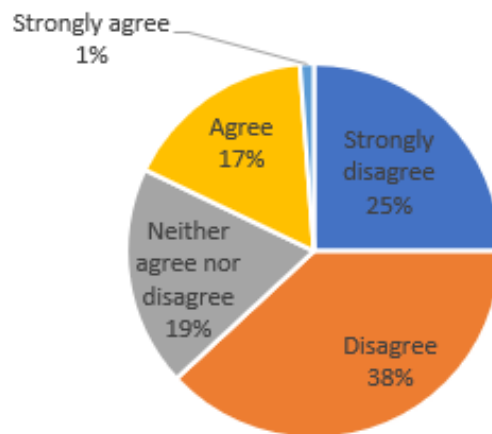


Figure 3.6.1: Level of adequate explanation from physician to patients

A quarter of patients (25%) and 32% of patients strongly disagree or disagree, respectively, with the notion that their doctor adequately explained the diagnosis of osteoarthritis (OA). In contrast, 16.7% express agreement with the adequacy of the explanation, and 19% of individuals remain neutral on this matter. Notably, one person strongly agrees with the consensus that their doctor sufficiently explained the OA diagnosis.

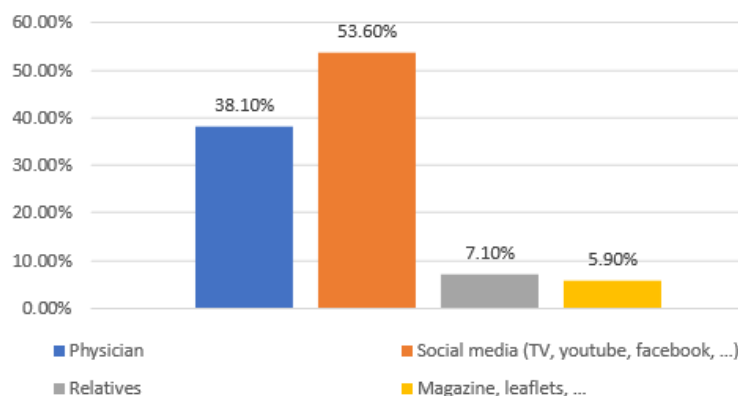


Figure 3.6.2: Source of OA information

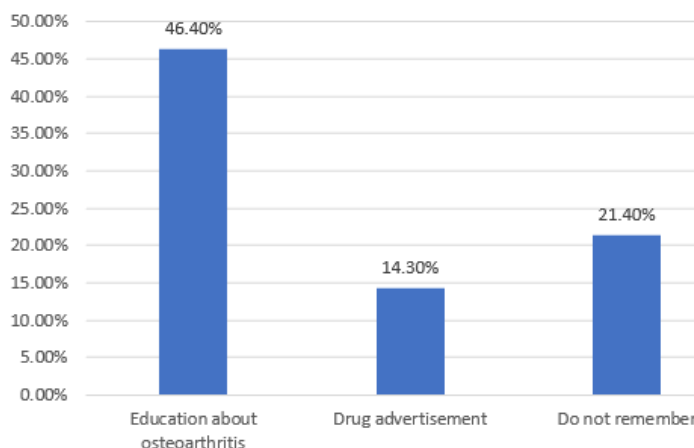


Figure 3.6.3: The contents of OA information

Among the participants, 38.1% (32 people) indicate that they receive information about osteoarthritis (OA) directly from their physicians. A majority of individuals, totaling 53.6%, rely on alternative sources such as social media platforms (television, YouTube channels, Facebook, etc.) for OA information. Additionally, 7.1% report obtaining information from their relatives, and 5.9% rely on magazines and leaflets as sources of OA-related information. From these sources, 46.4% of participants reported that the information is related to OA education. 14.3% of the participants stated that the information revolves around drug advertising. Notably, 21.4% of participants do not remember the specific content of the information they received.

		Patient can control pain by themselves				P value
		No		Yes		
		N	Colum N%	N	Colum N%	
Physician as the information sources	No	42	64.6%	10	52.6%	0.344
	Yes	23	35.4%	9	47.4%	
Doctor explains adequate about OA diagnosis	No	55	84.6%	14	73.7%	0.274
	Yes	10	15.4%	5	26.3%	

Table 3.6.1: The association between disease management capability and the knowledge provided by physicians.

In patients who have received information related to osteoarthritis (OA) at least once from a doctor, 9 patients (47.4%) are able to manage pain caused by joint degeneration. This percentage is higher compared to patients who are unaware of pain management strategies

(35.4%). However, the difference is not statistically significant with a P-value of 0.344. Within the subgroup of patients who have received a thorough explanation about their condition from a doctor, 5 individuals (26.3%) are knowledgeable about managing pain due to joint degeneration, which is higher than those who are unaware of pain management in this subgroup (15.4%). Nevertheless, the difference is not statistically significant with a P-value of 0.274.

		Cushingoid appearance				<i>P values</i>
		<i>No</i>		<i>Yes</i>		
		Count	Column N %	Count	Column N %	
Doctor explained to patient about OA	<i>No</i>	57	80.3%	12	92.3%	0.298
	<i>Yes</i>	14	19.7%	1	7.7%	
Physician as the information sources	<i>No</i>	43	60.6%	9	69.2%	0.554
	<i>Yes</i>	28	39.4%	4	30.8%	
Source: social media	<i>No</i>	32	45.1%	7	53.8%	0.56
	<i>Yes</i>	39	54.9%	6	46.2%	
Source: relatives	<i>No</i>	66	93.0%	12	92.3%	0.933
	<i>Yes</i>	5	7.0%	1	7.7%	
Source: magazine, leaflets, ...	<i>No</i>	66	93.0%	13	100.0%	0.324
	<i>Yes</i>	5	7.0%	0	0.0%	

Table 3.6.2: The association between Cushingoid appearance and information sources

In patients who were fully informed about OA by their physicians, the prevalence of Cushing's syndrome (30.8%) was lower than that of those who were not informed (39.4%); however, this difference was not statistically significant with a P-value of 0.298. The variation in the prevalence of Cushing's syndrome also lacked statistical significance when comparing subgroups, with P-values ranging from 0.324 to 0.933. These subgroups included patients who received information about OA from their physicians, through media channels, from acquaintances, and from journals or brochures.

3.6 Factors Influencing Patient's Knowledge and Subgroup Analysis

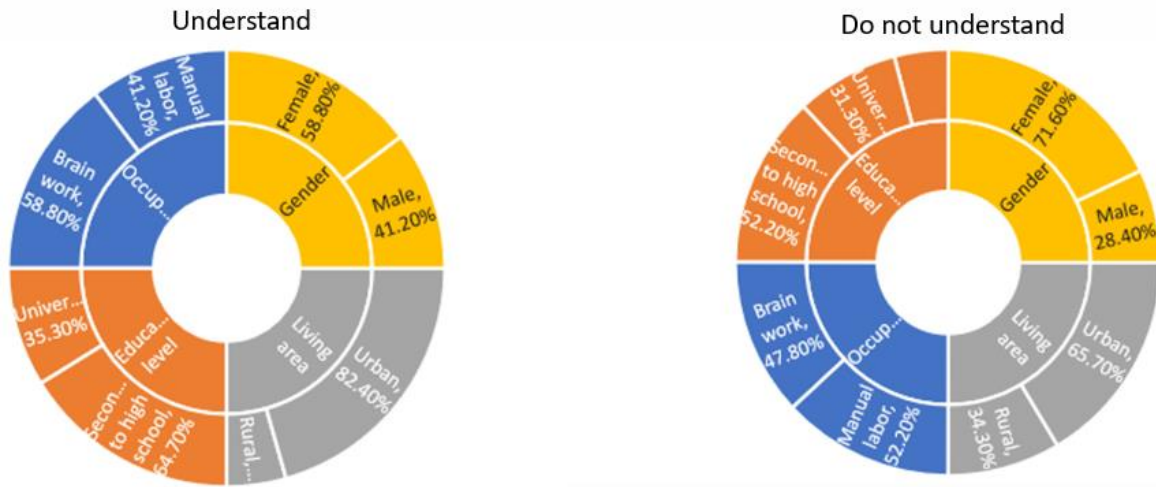


Figure 3.7: The association between understanding the causes of OA and demographic factors

When comparing the number of individuals with and without knowledge about common causes of joint degeneration across occupational groups, educational levels, living regions, and genders, no significant differences were observed with P values ranging from 0.184 to 0.415.

In examining the correlation between the level of understanding of the causes of osteoarthritis (OA) and the time of disease onset, a t-test was conducted to assess the p-value. The results (table 3.15 below) indicate that 67 individuals lacking knowledge have an average disease duration of 8.7 ± 7.3 years. This duration is comparatively lower than the group with awareness of the issue (10.4 ± 9.6 years); however, the difference is not statistically significant with a p-value of 0.44.

	Understand causes	N	Mean	Std. Deviation	Std. Error Mean	P value
Disease duration	Disagree	67	8.7	7.3	0.9	0.44
	Agree	17	10.4	9.6	2.3	

Table 3.7.1: The association between disease duration and knowledge about disease causes

		Understand treatment options				P values
		Disagree		Agree		
		Count	Column N %	Count	Column N %	
Occupation	Manual labor	38	55.1%	4	26.7%	0.046
	Brain work	31	44.9%	11	73.3%	
Education level	Primary school	11	15.9%	0	0.0%	0.005
	Secondary to high school	41	59.4%	5	33.3%	
	University	17	24.6%	10	66.7%	
Living area	Urban	45	65.2%	13	86.7%	0.103
	Rural	24	34.8%	2	13.3%	
Gender	Male	19	27.5%	7	46.7%	0.146
	Female	50	72.5%	8	53.3%	

Table 3.7.2: The association between understanding treatment methods and demographic factors

When comparing the number of individuals with knowledge about osteoarthritis (OA) treatment methods across subgroups of living regions and gender, no significant differences were observed with P values of 0.103 and 0.416, respectively. However, among intellectually oriented workers, there is a statistically significant difference in knowledge about treatment methods, with 73.3% having awareness compared to 44.9% who are unaware (P = 0.046).

In the subgroups with elementary and secondary -high school education, a higher percentage of individuals are unaware of OA treatment methods (15.9% and 59.4%, respectively) compared to those with knowledge (0% and 33.9%, respectively). Among individuals with a university degree, 66.7% have knowledge about OA treatment methods, which is higher than the 24.6% without this knowledge (P = 0.005).

Table 3.7.3 below presents the agreement levels concerning knowledge about the causes and treatment of osteoarthritis (OA) and input from physicians. Five agreement levels, ranging from strongly disagree to strongly agree, were used for statements related to OA understanding and physician input. The comparison between participants from 108 Military Central Hospital and Vinmec Hospital revealed no significant difference in their understanding of common OA causes, indicated by a P-value of 0.446. However, a notable distinction emerged in the statement regarding receiving adequate explanations from physicians, with a P-value <0.001.

In Vinmec Hospital, 50% of respondents agreed that their doctors provided sufficient explanations for OA diagnoses, while only 6.3% of participants at 108 Military Hospital shared this sentiment, with 1 person (1.6%) strongly agreeing. Furthermore, a statistically significant difference was observed in the statement concerning the understanding of treatment options, with a P-value <0.001. In Vinmec Hospital, 50% of respondents agreed with understanding treatment options, while in 108 Military Hospital, only 7.8% expressed agreement.

		Hospital				P values
		108 military		Vinmec		
		N	Column N%	N	Column N%	
Understanding causes of OA	Strongly disagree	24	37.5%	7	35%	0.446
	Disagree	19	29.7%	3	15%	
	Neither agree nor disagree	9	14.1%	5	25%	
	Agree	12	18.8%	5	25%	
	Strongly agree	0	0%	0	0%	
Doctor adequately explained OA diagnosis to patient	Strongly disagree	21	32.8%	0	0%	<0.001
	Disagree	25	39.1%	7	35%	
	Neither agree nor disagree	13	20.3%	3	15%	
	Agree	4	6.3%	10	50%	
	Strongly agree	1	1.6%	0	0%	
Understanding treatment options	Strongly disagree	21	32.8%	0	0%	<0.001
	Disagree	31	48.4%	5	25%	
	Neither agree nor disagree	7	10.9%	5	25%	
	Agree	5	7.8%	10	50%	
	Strongly agree	0	0%	0	0%	

Table 3.7.3: The agreement level on knowledge about the cause and treatment of OA and input from physicians at 108 Military Central hospital and Vinmec hospital

		Hospital				P value
		108 hospital		Vinmec		
		Count	Column N %	Count	Column N %	
Physician	No	47	73.4%	5	25.0%	<0.001
	Yes	17	26.6%	15	75.0%	
Social media (TV, youtube, facebook, ...)	No	28	43.8%	11	55.0%	0.379
	Yes	36	56.3%	9	45.0%	
Relatives	No	59	92.2%	19	95.0%	0.67
	Yes	5	7.8%	1	5.0%	
Magazine, leaflets, ...	No	59	92.2%	20	100.0%	0.197
	Yes	5	7.8%	0	0.0%	

Table 3.7.4: The source of provided information at 108 Military Central hospital and Vinmec hospital

In both institutes, patients acquire information about OA from sources such as social media, relatives, and magazines or leaflets, with no significant difference in frequency, as indicated by P-values ranging from 0.197 to 0.67. However, a notable distinction arises in the context of obtaining information from physicians, with a P-value < 0.001. In Vinmec hospital, 75% of individuals receive relevant information directly from physicians, whereas in 108 Military hospital, this percentage is notably lower at 26.6%.

When comparing the percentage of individuals who believe that OA is a curable condition, the behavior of self-medication without direct consultation from a physician, and the incidence of Cushing syndrome between two patient groups from different hospitals, the results indicate no significant differences between these two groups, with P values ranging from 0.096 to 0.386 (table 3.7.5).

		Hospital				P value
		108 Military		Vinmec		
		N	Column N %	N	Column N %	
Cushingoid appearance	No	52	81.3%	19	95.0%	0.138
	Yes	12	18.8%	1	5.0%	
Patients think that OA is a reversible disease	No	56	87.5%	19	95.0%	0.344
	Yes	8	12.5%	1	5.0%	
Patients think that there is a drug that could treat OA completely	No	56	87.5%	20	100.0%	0.096
	Yes	8	12.5%	0	0.0%	
Patients take drug to treat OA without advice from physician	No	25	39.1%	10	50.0%	0.386
	Yes	39	60.9%	10	50.0%	

Table 3.7.5: Compare the knowledge regarding the causes, treatment methods of the disease, and the practice between patients at two hospitals

		Hospital				P value
		108 Military		Vinmec		
		Count	Column N %	Count	Column N %	
Patient do not know appropriate exercises	No	35	54.7%	14	70.0%	0.225
	Yes	29	45.3%	6	30.0%	
Swimming	No	58	90.6%	17	85.0%	0.48
	Yes	6	9.4%	3	15.0%	
Stationary cycling	No	58	90.6%	9	45.0%	<0.001
	Yes	6	9.4%	11	55.0%	
Jogging	No	57	89.1%	20	100.0%	0.12
	Yes	7	10.9%	0	0.0%	
Taichi	No	61	95.3%	19	95.0%	0.95
	Yes	3	4.7%	1	5.0%	
Yoga	No	60	93.8%	17	85.0%	0.28
	Yes	4	6.3%	3	15.0%	
	Yes	2	3.1%	0	0.0%	
Cycling	No	54	84.4%	18	90.0%	0.53
	Yes	10	15.6%	2	10.0%	

Table 3.7.6: Compare the number of individuals who are aware of suitable exercise routines among patients at two hospitals

When examining awareness of physical therapy, a notable disparity exists between patients at 108 Military Hospital and Vinmec, particularly in relation to the statement about stationary cycling, with a P-value <0.001. Among Vinmec patients, 55% acknowledge that stationary cycling is an appropriate exercise for osteoarthritis (OA). Conversely, only 9.4% of patients at 108 Military Hospital reported awareness of this exercise's suitability for OA.

Chapter 4: Discussion

4.1 Study Population Characteristics

4.1.1 Demographic Characteristics

4.1.1.1 Age and gender

The average age of the participants is 66 years, and the standard deviation is 9.6 years. This aligns with findings in numerous other populations studied, as seen in a study also conducted in 108 Military Central hospitals with 360 participants diagnosed with primary knee osteoarthritis, where the average age was reported as 63.29 ± 11.20 years [27]. In another research conducted in 2021 in Me Linh general hospital, this number was 60 years [28]. The participants are segmented into three age brackets: 45-60, 61-75, and 76-85, constituting 27.4%, 57.1%, and 15.5% of the population, respectively. This finding reveals that individuals aged 60 and above make up 72% of those experiencing osteoarthritis in our study. Our results are similar to numbers in a study with 60 individuals showing participants who are greater than 60 years old account for 75% [28]. The rise in both the prevalence and incidence of OA as individuals age is likely a result of cumulative exposure to diverse risk factors and biological changes associated with aging. These changes may render a joint less capable of handling challenges, encompassing factors like cartilage thinning, diminished muscle strength, impaired proprioception, and oxidative damage [29].

The P-value for age group between the two hospitals is 0.034, suggesting that there is a statistically significant difference in age distribution among participants from the two hospitals. Specifically, the difference is likely related to the age groups. In the 45-60 years age group, there is 50% of patients reported in Vinmec Hospital, whereas this percentage is only 20.3% in 108 Military Central Hospital. Conversely, patients aged greater than 60 years old constitute 79.7% in 108 Hospital, while this figure is 50% in Vinmec. Based on these figures, it can be inferred that osteoarthritis (OA) patients in Vinmec are generally younger compared to those in 108 Military Hospital. Our observations suggest that because individuals seeking medical care at Vinmec tend to do so in the early stages of the condition, in contrast to patients in 108 Military Hospital or other public hospitals who typically seek medical attention at later stages.

In relation to gender distribution, males make up 31%, while females constitute 69% of the participants. This predominance in females is also observed in another study on OA, where 74.4% of the study population reflects a notable female prevalence [27]. In a study involving 60 participants, females make up 75% of the total, while males contribute 25%. These findings are compatible with the facts that OA likely impacts on female gender. Hormonal elements could contribute to the onset of OA [29].

4.1.1.2 Education level, occupation, and residential locality

The percentage of individuals engaged in manual labor and cognitive work is equal, with each group comprising 50%. This contrasts with another study in Vietnam, where the majority were individuals involved in manual labor, particularly workers and farmers, accounting for 28.3% and 31.7%, respectively [28]. In our study, the P-value for occupation between the two hospitals is 0.306, indicating that there is no statistically significant difference in occupation between the participants from the two hospitals.

Participants with educational backgrounds spanning from primary school, through secondary and high school, to university represent 13.1%, 54.8%, and 32.1%, respectively. Our result shows a positive number compared to other studies. For example, people who experienced high school and above make up 48.3% were reported in an outpatient research [30]. In a research conducted at Ca Mau General Hospital, encompassing 229 osteoarthritis (OA) patients, those with an educational background up to primary school make up 75.5%, while 24.5% is contributed by patients who pursued secondary school education and beyond [31]. Interestingly, the P-value for education level between 108 Military Central hospital and Vinmec is 0.368, suggesting that there is no statistically significant difference in education level among participants from the two hospitals.

In our study, approximately 69% of the population resides in urban areas, in contrast to 31% living in rural regions. Conversely, a different study reported that 64.2% of the population lives in rural areas, with 35.8% residing in cities [31]. This can be elucidated by the fact that 108 Military Central Hospital and Vinmec are situated in Hanoi, a bustling city, and are responsible for patients residing in their vicinity. Moreover, patients are seldom referred from hospitals in other provinces, as those facilities primarily address various health issues like pneumonia, heart failure, liver failure, etc. Provincial hospitals, on the other hand, cater to the healthcare needs of individuals in smaller cities and numerous rural areas. The P-value for living area between the two hospitals in our study is 0.077, indicating that there may be a slight trend or difference, but it is not statistically significant.

4.1.2 Osteoarthritis Characteristics

4.1.2.1 Location of affected joint and comorbidities

In the category of affected joints, knee osteoarthritis (OA) and spinal OA demonstrate the highest prevalence rates at 73.8% and 72.6%, respectively. The explanation for the susceptibility of knee and vertebral joints to OA may be attributed to their role as weight-bearing joints [19]. Following closely are OA in the hand and hip, with rates of 14.3% and 2.4%, respectively.

In relation to comorbidities, hypertension exhibits the highest incidence, accounting for 42.9%. In a meta-analysis, fifty percent of OA patients experience high blood pressure [32]. Following this, gastrointestinal disease, diabetes mellitus type 2, and osteoporosis have rates of 25%, 19%, and 13.1%, respectively. Cardiovascular disease and obesity have lower prevalence rates, standing at 11.9% and 2.4%, respectively. Our findings align with a study conducted at 108 Hospital published in 2020, which reported hypertension accounting for 43% and diabetes for 18.3% [27]. According to a meta-analysis, among individuals with OA, comorbidities are most likely to impact the upper gastrointestinal, cardiovascular, and endocrine systems [32].

As per the guidelines provided by the European League Against Rheumatism (EULAR) and the NICE, it is emphasized that diagnosing and managing specific comorbidities and understanding their patterns in OA are crucial and are recommended for best practices [32]. From a clinical standpoint, the existence of comorbidities in OA presents substantial challenges for both effective management and not only from the patient's perspective but also from the physician's point of view. During the treatment process, patients often express concerns about the gastrointestinal side effects of medications, and this fear is a common reason for non-compliance with the prescribed treatment. When prescribing for patients with OA who have comorbidities, physicians also need to carefully consider the selection of medication groups, which is not as straightforward as for patients with uncomplicated OA. For example, in the NSAIDs drug class, based on the consideration the gastrointestinal and cardiovascular risk factors, the selective COX-2 inhibitors are the first choice [33].

4.1.2.2 Clinical manifestation and consequences

When questioned about the most bothersome signs and symptoms induced by OA, most participants, comprising 86.9% which is a high number, reported experiencing joint pain. Our study yields similar results to another study involving 60 OA patients over 40 years old, where 100% of the patients reported complaints about arthralgia [28]. This consistency with other studies reinforces the widespread prevalence of arthralgia in OA patients. Other prevalent complaints included abnormal gait (60.7%), sleep disorders (17.9%), rigidity (16.7%), joint swelling (13.1%), and limited range of motion (11.9%). Less common issues included fatigue (9.5%) and joint popping sounds (4.8%).

Remarkably, a noteworthy portion of the population, totaling 13%, displayed Cushing's appearance. In the study protocol, individuals with OA who have Cushing's disease, also known as hypercortisolism caused by excessive adrenocorticotrophic hormone leading to the release of an excess of cortisol, were excluded. Additionally, patients using corticosteroids for

comorbidities such as nephrotic syndrome, rheumatoid arthritis, and systemic lupus erythematosus were excluded from our study. This observation raises the possibility that individuals in the study population might have been exposed to corticosteroids for an extended duration as part of their efforts to manage degenerative joint disease. There are evidence supporting for this possibility. For example, in a study of 107 cases diagnosed with Cushing syndrome in Long Xuyen province, located in the southern part of Vietnam, 73.8% of the cases were osteoarthritis (OA) patients, followed by rheumatoid arthritis with 20.6%, and gout with 5.6% [34]. s

While OA rarely causes mortality, it significantly impacts the quality of life. In our study, participants reported limitations in social interactions (57.1%), work activities (54.8%), and physical activities (36.9%). In another research study conducted on 193 primary OA cases, 83.9% of the study population reported physical impairment assessed by the Short Physical Performance Battery (SPPB) scale, with 21.8% indicating impairment in Activities of Daily Living (ADL) [35]. In mental health concerns related to emotions induced by osteoarthritis (OA) were voiced by 13.1% of individuals in our study population.

4.1.3 Patient Knowledge and Practices

4.1.3.1 Patient knowledge about OA causes and treatment options

It is important to have knowledge to manage chronic diseases such as OA. In 2011, there were close to one million hospitalizations related to OA, incurring a total cost of almost \$15 billion. This positioned it as the second most costly disease observed in the United States [2].

Five agreement levels, ranging from strongly disagree to strongly agree, were employed for statements concerning OA causes and treatment understanding. Regarding patients' understanding of the causes of OA, 36.9% and 26.2% strongly disagree or disagree, respectively, with the idea that they comprehend its common causes. These figures suggest a negative trend in patient perception, given that approximately 63.1% of patients lack knowledge about the common causes of OA. This negative response is further highlighted in a cross-sectional study conducted on 70 patients in 2014 in Vietnam. According to that study, 54.3%, 61.4%, and 65.7% of the study population did not recognize daily work, obesity, or body position as risk factors for OA, respectively [7]. Those who agree that they understand make up only 20.2% of the participants. The contrast is noteworthy when compared to a study conducted in Saudi Arabia with 1052 participants from the general population. In that study, up to 82.6% of the sampled population demonstrated proper awareness about OA, encompassing knowledge of risk factors, relieving measures, consequences, and preventive methods on average [6]. This difference indicates that Vietnamese patients are not adequately equipped with

the necessary knowledge about common diseases, even when they are the ones suffering from the condition and living with it for an extended period.

Vinmec is well known as a private hospital catering to a clientele of financially well-off patients. The overall level of health care attention for patients here tends to be significantly higher compared to patients at other public hospitals. 108 Military Central hospital is a typical public hospital in Vietnam, serving a predominantly low to middle-income patient population. The comparison between participants from 108 Military Central Hospital and Vinmec Hospital indicated no significant difference in their understanding of common OA causes, as reflected by a P-value of 0.446. In our study, the lack of significant differences in knowledge about common causes of joint degeneration across various demographic factors such as occupational groups, educational levels, living regions, and genders, as indicated by P values ranging from 0.184 to 0.415, suggests a uniform distribution of awareness within the studied population. This implies that, irrespective of profession, education, location, income or gender, individuals in the sample exhibit a comparable level of understanding regarding the typical causes of joint degeneration. However, it's important to note that these findings may be subject to the limitations of the study design or sample size, and further investigation may provide a more comprehensive understanding of potential factors influencing knowledge variations in different subgroups.

The obtained results from the t-test comparing the average disease duration between individuals lacking knowledge about the causes of OA and those with awareness of the issue reveal interesting insights. Despite a lower average disease duration in the group lacking knowledge (8.7 ± 7.3 years) compared to the knowledgeable group (10.4 ± 9.6 years), the observed difference did not reach statistical significance with a p-value of 0.44. This suggests that, based on the available data, there is insufficient evidence to conclude that the level of understanding about OA causes significantly influences the time of disease onset. The non-significant p-value (0.44) indicates that the observed differences could have occurred by chance, and further investigations or a larger sample size may be necessary to draw more conclusive findings.

In terms of patients' understanding of treatment options, 25% and 42.9% of participants strongly disagree or disagree with the statement that they comprehend these options, respectively. Analyzing these figures, it becomes apparent that patients lacking knowledge about OA therapy constitute around 67.9%, a considerably high percentage and worrying problem. This negative figure also is seen in a study in Egypt. According to that study, the majority of patients exhibited an unsatisfactory level of knowledge regarding osteoarthritis

disease [36]. This similarity could be attributed to the fact that both countries are developing nations. In our research, those participants who affirm their knowledgeability make up only 17.9%. Meanwhile, twelve participants (14.3%) express a neutral position. When investigating the subgroup between the two hospitals, a statistically significant difference was noted in the statement regarding the understanding of treatment options, with a P-value <0.001 . In Vinmec Hospital, 50% of respondents agreed with understanding treatment options, whereas in 108 Military Hospital, only 7.8% expressed agreement. In Vinmec hospital, each patient has 30 minutes on average to be examined and explained their treatment by physician after being diagnosed. This process is not available in another institute, and other public hospital where doctor has limited time to exam a numerous patient. Additionally, they do not familiarize themselves with giving explanations to patients.

There are many factors contributing to the patient's knowledge about OA treatment methods. While there were no significant differences observed based on living regions or gender, the distinct pattern among intellectually oriented workers stands out. The statistically significant difference in knowledge, with 73.3% awareness compared to 44.9% unawareness ($P = 0.046$), suggests that occupation or intellectual engagement may influence one's understanding of OA treatment. Moreover, the education level appears to play a significant role. In subgroups with elementary and secondary education, a higher percentage of individuals are uninformed about OA treatment methods (15.9% and 59.4%, respectively) compared to those with knowledge (0% and 33.9%, respectively). Conversely, among individuals with a university degree, 66.7% possess knowledge about OA treatment methods, significantly higher than the 24.6% without this knowledge ($P = 0.005$). These variations highlight the need for targeted educational efforts, especially among specific occupational and educational groups, to improve awareness and understanding of OA treatment methods.

Among the study's participants, a notable segment consists of nine individuals, representing approximately 10.7% of the total cohort, who harbor the perspective that OA is a condition with the potential for reversal. This belief within the group has intriguing origins, with two participants attributing their conviction to information provided by their relatives. It is noteworthy that familial influence plays a role in shaping perceptions about the reversibility of OA in a minority of cases. In a separate vein, a distinct subset of seven participants autonomously formulated the belief in the reversibility of OA. This highlights a degree of individual agency in the development of perspectives on the disease. The self-originating nature of these beliefs suggests a certain level of independent research, personal experiences, or perhaps exposure to alternative viewpoints within the medical community. The diversity in the

origins of the belief that OA is a reversible disease adds an interesting layer to the study findings. While familial influence plays a role for some, others independently arrive at this conviction, indicating the complexity of factors shaping individual perceptions of medical conditions. Understanding the varied sources of such beliefs is crucial for developing targeted educational interventions and fostering a more comprehensive awareness of OA within the broader population.

Nineteen individuals, accounting for only 22.6% of the overall study population, assert a personal capacity to control flare-ups associated with OA. This finding shed light on a noteworthy aspect of participant perceptions regarding their ability to influence the course of the condition. This also reflects a potential area for targeted patient empowerment interventions. When delving into the realm of pain management strategies among the study cohort, a nuanced picture emerges. A modest 5.9% (comprising five individuals) express a preference for acetaminophen. Following closely behind are various alternatives, with topical NSAIDs, anti-inflammatory agents, herbal medicine, oral NSAIDs, and corticoids each garnering mentions from 4.8%, 3.6%, 3.6%, 3.6%, and 2.4% of participants, respectively. These insights inform healthcare practitioners and researchers in refining strategies for patient education and improving overall OA management.

4.1.3.2 Patient knowledge about non-pharmacological therapies

According to NICE guideline, the approach to OA management should be directed by symptoms and physical function. The primary interventions for the condition involve therapeutic exercise and weight management, if applicable [5]. Engaging in regular and consistent exercise, even if it initially causes discomfort or pain, will prove advantageous for joint health. Persistent adherence to an exercise regimen enhances its benefits over the long term, leading to a reduction in pain and an improvement in overall functioning and quality of life [5].

Regarding knowledge about physical therapy, the data reveals a notable consensus (95.2%) among participants in favor of embracing an active lifestyle through daily exercise. However, a concerning 41.7% (35 individuals) within this group admit to lacking awareness of suitable exercises for managing OA. Recommendations include local muscle strengthening and general aerobic fitness exercises [5]. Among those well-informed, 20.3% (17 individuals) acknowledge the effectiveness of stationary cycling, while 14.3% (12 individuals) endorse regular cycling as beneficial for OA. Other recognized exercises include swimming (10.7%), jogging (8.3%), yoga (8.3%), and Tai Chi (4.7%). Patients with knee and/or hip OA are conditionally advised to engage in balance exercises and consider practicing Tai Chi while for individuals with knee

OA, the conditional recommendation is to consider practicing yoga [4]. Our study shows a greater number compared to some research. In a study, the proportion of patients knowledgeable about appropriate physical activity and postures for joint degeneration is 24 out of 70 (34.3%). Regarding treatment, the majority of patients (65.7%) lack knowledge about suitable physical activity and postures for joint degeneration [7]. The other study stated that the number of patients aware of correct physical activity and exercise methods is also low (41%) [30].

The number of individuals implementing weight loss measures to avoid excess weight and obesity is not high (30.2%) [30]. Even in another research, among patients who are aware that excess weight and obesity affect joint degeneration negatively, there are still 4.3% who do not implement weight control measures [7].

It is well known that in every OA treatment guideline, for all degenerated joints, non-pharmacological measures such as weight management, proper exercise regimen, strengthening muscles, avoiding injuries, and utilizing appropriate joint support devices are prioritized at every stage of the disease progression [33]. This underscores the importance of enhancing education and awareness regarding appropriate exercises for individuals with osteoarthritis. Providing detailed information on these exercises, their advantages, and safe execution could potentially enhance the overall well-being of those grappling with OA.

In assessing awareness of physical therapy, a significant discrepancy is observed between patients at 108 Military Hospital and Vinmec, specifically concerning the statement about stationary cycling, with a P-value <0.001. Among Vinmec patients, 55% recognize stationary cycling as a suitable exercise for OA. In contrast, only 9.4% of patients at 108 Military hospital indicated awareness of the appropriateness of this exercise for OA. This can be explained by the differences in the communication and counselling practices between healthcare professionals and patients regarding OA management strategies, including exercise recommendations. Physicians at Vinmec primarily recommend two exercises: swimming and stationary cycling. Some patients, especially those concerned about their age, may be reluctant to learn how to swim. As a result, they opt for stationary cycling over swimming. This could clarify the variation in statements about these two exercises.

4.1.3.3 Practice in medicine usage

In the examined group, 58.3% (49 individuals) utilize medication to manage OA without obtaining direct guidance from physician. This number could be explained by the state that patients lacking knowledge about OA treatment options around 67.9% which mentioned above. Among this 49 people, 41.7% (35 individuals) directly procure drugs from pharmacy

establishments, while an additional 39.3% prefer herbal remedies obtained outside of hospital settings. Patients favor herbal medicine due to the belief that it is gentler and has fewer side effects than conventional medicine prescribed by physicians. In addition to this belief, many patients have reported quick pain relief while using herbal medicine. Based on these two beliefs, they continue to use herbal medicine and propagate the associated perceptions. However, they may not be aware that most herbal medicines available on the market (not produced in hospitals) are often mixed with high doses of corticoids. These corticoids provide temporary pain relief due to their anti-inflammatory properties, but there are numerous adverse effects associated with prolonged and high-dose use, such as hyperglycemia, osteoporosis, Cushing syndrome, muscle atrophy. This percentage surpasses another study where 31.2% of the study population utilizes herbal medicine [30].

Notably, 4.7% of the study participants obtain medication through advertisements on various social media platforms (television, YouTube channels, Facebook, etc.). There was a study conducted on 195 osteoarthritis patients regarding the purchase of nutritional supplements revealed that there are 6 factors directly influencing the buying decision. Among these factors, the role of advertising communication and awareness of the disease play significant roles [37]. Within the cohort of 49 individuals, around 19% (16 people) and 34.5% (29 people) cite convenience and perceived efficacy as the primary reasons for purchasing medication, respectively. Furthermore, there are up to 13.1% (11 people) cannot recall the names of the drugs they acquire. This negative circumstance could be seen in previous study, such as 45.6% of a study population lacks sufficient knowledge about drug side effects [30]. In another study, among the 55 individuals using medication for OA treatment, only 36.4% of them are knowledgeable about the proper usage of the medication [7]. In our study, NSAIDs, corticoids, and anti-inflammatory medicines each garnered a reported usage rate of 2.4% among individuals. These kinds of medicines are recommended in OA treatment depending on joint location and severity [4].

Among the 13 patients displaying Cushingoid appearance, all are employing medication for osteoarthritis without obtaining direct guidance from physicians. Four individuals disclosed acquiring medicine through advertisements on social media platforms such as TV, YouTube, or Facebook. Intriguingly, half of this group (50%) subsequently developed Cushing syndrome. This finding underscores the potential risks associated with self-medication and relying on pharmaceuticals advertised on social media for the treatment of osteoarthritis in patients with Cushingoid appearance. The fact that half of those who purchased medication through such channels developed Cushing syndrome highlights the importance of seeking professional

medical advice to ensure safe and effective treatment. This underscores the need for increased awareness about the potential consequences of unsupervised medication choices, particularly when influenced by social media advertisements.

Within the Cushing's syndrome patient population, 25.7% engage in self-medication by acquiring pharmaceuticals from pharmacies, a notably higher proportion than the 8.2% observed among those who do not self-medicate, demonstrating statistical significance at $P < 0.028$. Moreover, among this cohort of 13 patients, 36.4% opt for herbal medicine as a treatment for the condition, a substantially higher percentage than the 2% observed in patients not utilizing herbal remedies, revealing statistical significance at $P < 0.001$. These findings shed light on the notable prevalence of self-medication practices among individuals with Cushing's syndrome. The substantial difference in self-medication rates, with 25.7% of patients resorting to purchasing drugs without medical guidance compared to 8.2% without such behavior, underscores a concerning trend. Moreover, the substantial use of herbal medicine within this group, with 36.4% opting for it compared to only 2% among those not using herbal remedies, highlights the diverse approaches patients take in managing their condition. The statistical significance, indicated by $P < 0.028$ for self-medication and $P < 0.001$ for herbal medicine use, emphasizes the importance of recognizing and addressing these patterns. This information underscores the need for healthcare professionals to educate and guide patients with Cushing's syndrome, ensuring they make informed and safe choices in their treatment approaches. The prevalence of self-medication and herbal remedy usage in this population necessitates further exploration of the underlying reasons and potential implications for patient outcomes and overall health.

4.2 The Physician's Role and Contributions from other Sources

A quarter of patients (25%) and 32% respectively express strong disagreement or disagreement with the belief that their doctor sufficiently clarified the diagnosis of OA. From this, it can be observed that 57% of patients are not adequately explained about their illness. Only 16.7% agree with the adequacy of the explanation, while 19% remain neutral on this matter. Unfortunately, only one person strongly concurs with the consensus that their doctor provided a satisfactory explanation for the OA diagnosis. In comparing this aspect between the two hospitals, we observed a statistically significant difference with a P-value of < 0.001 : Within Vinmec hospital, half of the respondents acknowledged that their physicians delivered satisfactory explanations for OA diagnoses. In contrast, a mere 6.3% of participants at 108 Military hospital held a similar viewpoint, and only one individual (1.6%) expressed strong agreement with the adequacy of explanations provided.

Among participants, 38.1% (32 people) mention receiving information about osteoarthritis (OA) directly from their physicians. The majority, constituting 53.6%, turn to alternative sources such as social media platforms (television, YouTube channels, Facebook, etc.) for OA-related information. Additionally, 7.1% rely on information from their relatives, while 5.9% look to magazines and leaflets as sources of OA-related information. Reported in a study, the number of patients researching their own illness is high (67.3%), with only 25.9% relying on healthcare staff for information [30]. From these numbers, we could see that patients are concerned about their health and get more information about diseases from doctor increasingly which are positive signs. However, healthcare staff are not yet the most important and prevalent source of information for patients.

Among patients who received comprehensive explanations about OA from their doctors, the occurrence of CS (30.8%) was observed to be lower compared to those who did not receive such information (39.4%). However, this difference did not reach statistical significance, as indicated by a P-value of 0.298. The disparity in the prevalence of CS also lacked statistical significance when examining various subgroups, with P-values ranging from 0.324 to 0.933. These subgroups encompassed patients obtaining OA information from their physicians, through media outlets, from acquaintances, and from journals or brochures. It's important to note that while there may be a numerical trend, the lack of statistical significance emphasizes the need for cautious interpretation, and additional research may be necessary to draw definitive conclusions about the association between OA information sources and CS prevalence.

Among patients who have been informed about OA by a doctor at least once, 9 patients (47.4%) demonstrate the ability to handle pain associated with joint degeneration, a percentage higher than those who are not versed in pain management (35.4%). However, the observed difference lacks statistical significance, with a P-value of 0.344. In the subset of patients who have received a comprehensive explanation of their condition from a doctor, only 5 individuals (26.3%) are adept at managing pain due to joint degeneration, surpassing the awareness of pain management in this subset (15.4%). Nonetheless, the difference does not achieve statistical significance, with a P-value of 0.274. The lack of statistical significance at P-values of 0.344 and 0.274 suggests caution in drawing definitive conclusions. Further research and a larger sample size may be necessary to explore these potential relationships and determine their significance more robustly. This could be considered evidence that patients are not adequately equipped with sufficient knowledge about joint degeneration despite being exposed to various sources of information. Notably, even the primary authoritative source of information, the

physician, has failed to convey enough knowledge to the patients.

In both institutes, patients obtain information about OA from sources like social media, relatives, and magazines or leaflets, with no significant difference in frequency, as indicated by P-values ranging from 0.197 to 0.67. However, a notable distinction emerges regarding obtaining information from physicians, with a P-value < 0.001 . In Vinmec hospital, 75% of individuals directly receive pertinent information from physicians, while in 108 Military Hospital, this percentage is significantly lower at 26.6%. As mentioned above, in Vinmec hospital, each patient is allocated an average of 30 minutes for examination and treatment explanation by the physician following the diagnosis. This practice is not present in another institute and other public hospitals where doctors have limited time for examining numerous patients. Moreover, there is a lack of familiarity with providing explanations to patients in these settings. Within these sources, 46.4% of participants reported that the information is related to OA education. About 14.3% of the participants stated that the information revolves around drug advertising. It's noteworthy that 21.4% of participants cannot recall the specific content of the information they received.

In comparing the percentages of individuals who perceive OA as a treatable condition, engage in self-medication without direct physician consultation, and the prevalence of CS between two patient groups from distinct hospitals, the findings reveal no notable differences between these two groups, with P values ranging from 0.096 to 0.386. This consistency in responses may imply that factors influencing beliefs about OA, self-medication practices, and the occurrence of associated syndromes are consistent or similar in the studied patient populations from both hospitals. However, further investigation and consideration of potential influencing variables may provide a more comprehensive understanding of these observations.

Osteoarthritis is a chronic degenerative joint disease that necessitates a comprehensive approach to self-management. Patients should equip themselves with a thorough understanding of the condition and adopt appropriate practices to effectively manage osteoarthritis. Standing before each patient with osteoarthritis, the doctor needs to provide clear explanations about the causes of the disease, as well as the risk factors. From there, a tailored long-term care plan should be developed for each specific patient. The doctor should take the time to guide the patient through fundamental knowledge on managing pain and enhancing joint function, instructing on both medication and non-medication approaches. When explaining to a patient, a doctor should provide clear and detailed information to help the patient develop a well-defined plan for long term management. Doctors may need to ask patients to recap what has just been explained to ensure that the patient has a correct understanding. When doctors meet

with patients during examinations, in addition to educating them on osteoarthritis, it is essential to provide additional sources of information. This allows patients to further explore the topic when needed or if they happen to forget some of the information provided by the doctor. These additional resources should be reliable and endorsed by reputable authorities. Various sources of information include books, newspapers, brochures, health podcasts, ...

Doctors need to educate patients about the risks of self-medicating without adequate knowledge of both the medication itself and the underlying health condition. When disseminating information related to health, specifically osteoarthritis, through various media channels, it is crucial to provide accurate and scientifically grounded information. Misleading information, such as false claims in advertising for "cure-all" medications for osteoarthritis, should be avoided. Relevant regulatory bodies, such as the overseeing entities for media channels, need to rigorously vet the content before allowing it to be broadcast.

Chapter 5: Conclusions

The average age of the participants is 66 ± 9.6 years. In relation to gender distribution, males make up 31%, while females constitute 69% of the participants. The percentage of individuals engaged in manual labor and cognitive work is equal, with each group comprising 50%.

The most prevalent affected joints are knee OA (73.8%) and spinal OA (72.6%), followed by hand OA (14.3%) and hip OA (2.4%). Hypertension is the most common comorbidity, with an incidence of 42.9%, followed by gastrointestinal disease (25%), diabetes mellitus type 2 (19%), and osteoporosis (13.1%).

63.1% of patients lack knowledge about common causes of OA, with only 20.2% claiming understanding. Regardless of various demographics like disease onset time, profession, education, location, income, or gender, participants show a comparable understanding of typical causes of joint degeneration. About 67.9% lack knowledge about OA therapy, with 17.9% affirming knowledgeable ability.

There is approximately 10.7% of the total cohort, who harbor the perspective that OA is a condition with the potential for reversal. It can be observed that 57% of patients are not adequately explained about their illness. 16.7% agree with the adequacy of the explanation, while 19% remain neutral on this matter.

Among patients informed about OA by a doctor, 9 patients (47.4%) effectively manage joint pain. In patients receiving a thorough doctor explanation, 26.3% effectively manage joint pain, surpassing the subset's overall awareness (15.4%). However, the difference lacks statistical significance (P -value = 0.274).

Patients obtain information about OA from sources like social media, relatives, and magazines or leaflets. Regarding knowledge about physical therapy, the data reveals a notable consensus (95.2%) among participants in favor of embracing an active lifestyle through daily exercise. 41.7% (35 individuals) within this group admit to lacking awareness of suitable exercises for managing OA. 58.3% (49 individuals) self-administer OA medication without physician guidance. Of these, 41.7% (35 individuals) buy drugs directly from pharmacies, and 39.3% prefer herbal remedies from non-hospital sources. All 13 patients with a Cushingoid appearance use medication for OA without direct physician guidance.

Doctors play a crucial role in guiding patients through managing pain and improving joint function using both medication and non-medication approaches. To ensure patient comprehension, doctors may ask patients to recap the information provided. Additional sources of information, such as books, newspapers, brochures, and health podcasts, are essential for patients to explore and reinforce their understanding.

Appendix

APPENDIX A- QUESTIONNAIRE

BỆNH ÁN NGHIÊN CỨU

A. Thông tin cá nhân

1. Họ và tên:

2. Số hồ sơ bệnh án:

3. Nghề nghiệp (hiện tại hoặc trước đây):

1. Lao động chân tay (nông dân, công nhân,...)

2. Lao động trí óc (cán bộ, văn phòng, kinh doanh, điều dưỡng, bác sĩ,...)

3. khác (ghi rõ)

4. Trình độ học vấn: 1. Tiểu học 2. Trung học- phổ thông 3. Đại học

5. Khu vực sinh sống: 1. Thành thị 2. Nông thôn

6. Số điện thoại:

B. Bảng câu hỏi “Khảo sát nhận thức của bệnh nhân về xương khớp quy mô toàn cầu” (GOAPPS)

Vui lòng chọn quốc gia cư trú chính của ông/bà từ danh sách bên dưới:

Nước Ý/ Tây Ban Nha/ Hoa Kỳ/ Khác, vui lòng ghi rõ: Việt Nam

Bạn 18 tuổi hoặc trên 18 tuổi

Đúng

Không

7. Ông/bà sinh năm bao nhiêu?

8. Trong những lần đi khám bệnh, đã bao giờ ông/bà được bác sĩ chẩn đoán thoái hóa khớp (THK) chưa ?

Chọn một đáp án:

Rồi 1

Chưa 2

9. Ông/bà bị thoái hóa ở (những) khớp nào? Đánh dấu tất cả những đáp án mà ông/bà có:

Khớp gối 1

Háng 2

Cột sống 3

Tay 4

Khác (vui lòng ghi rõ vị trí): 5

10. Ông/bà đã được chẩn đoán mắc bệnh nào sau đây không? Đánh dấu tất cả những bệnh ông/bà có:

Béo phì 1

Bệnh tiểu đường 2

Bệnh tim/Bệnh tim mạch 3

Tăng huyết áp 4

Loãng xương 5

Trầm cảm 6

Lo lắng 7

Suy thận 8

Suy gan 9

Các vấn đề về đường tiêu hóa 10

11. Giới tính của ông/bà là gì? Chọn một đáp án:

Nam 1

Nữ 2

12. Trong tất cả các triệu chứng lâm sàng mà ông/bà gặp phải do thoái hóa khớp, ông/bà cho rằng triệu chứng nào ảnh hưởng nhiều nhất đến cuộc sống hàng ngày của ông/bà? Chọn tối đa 3 đáp án:

Đau/ đau khi sờ vào khớp 1

Sưng 2

Cứng khớp, khó gấp/duỗi khớp 3

Cảm giác lạo xạo/ lục cục 4

Mất tính linh hoạt 5

Thay đổi dáng đi/khó di chuyển 6

Rối loạn giấc ngủ 7

Mệt mỏi 8

Biến dạng khớp 9

Các triệu chứng khác 10

13. Ông/bà gặp phải những hạn chế hoặc vấn đề nào sau đây do thoái hóa khớp? Chọn những đáp án ảnh hưởng đến cuộc sống ông/bà:

Hạn chế các hoạt động thể chất 1

Hạn chế các tương tác xã hội 2

Hạn chế các hoạt động công việc 3

Hạn chế trong đời sống tình dục 4

Các vấn đề về cảm xúc, tâm lý hoặc sức khỏe tâm thần 5

Trong phần khảo sát này, ông/bà sẽ đọc một loạt các nhận định. Đối với mỗi nhận định, hãy cho biết mức độ đồng ý của ông/bà.

14. Ông/bà biết các nguyên nhân thường gặp của bệnh thoái hóa khớp. Chọn một đáp án:

Hoàn toàn không đồng ý 1

Không đồng ý 2

Không đồng ý cũng không phản đối 3

Đồng ý 4

Rất đồng ý 5

15. Bác sĩ của ông/bà hiểu khi ông/bà mô tả các triệu chứng mà ông/bà gặp phải do thoái hóa khớp. Chọn một đáp án:

Hoàn toàn không đồng ý 1

Không đồng ý 2

Không đồng ý cũng không phản đối 3

Đồng ý 4

Rất đồng ý 5

16. Bác sĩ đã giải thích đầy đủ về chẩn đoán thoái hóa khớp cho ông/bà.

Chọn một đáp án:

Hoàn toàn không đồng ý 1

Không đồng ý 2

Không đồng ý cũng không phản đối 3

Đồng ý 4

Rất đồng ý 5

17. Ông/bà hiểu các phương pháp điều trị thoái hóa khớp và những rủi ro liên quan của mỗi lựa chọn. Chọn một đáp án:

Hoàn toàn không đồng ý 1

Không đồng ý 2

Không đồng ý cũng không phản đối 3

Đồng ý 4

Rất đồng ý 5

18. Ông/bà hài lòng với kế hoạch điều trị thoái hóa khớp hiện tại. Chọn một đáp án:

Hoàn toàn không đồng ý 1

Không đồng ý 2

Không đồng ý cũng không phản đối 3

Đồng ý 4

Rất đồng ý 5

19. Ông/bà muốn tiếp cận với các lựa chọn điều trị bằng thuốc để bổ sung cho bệnh thoái hóa khớp của mình (ví dụ: glucosamine, chondroitin, NSAID, thuốc giảm đau như ibuprofen hoặc acetaminophen, axit hyaluronic, corticosteroid)

Hoàn toàn không đồng ý 1

Không đồng ý 2

Không đồng ý cũng không phản đối 3

Đồng ý 4

Rất đồng ý 5

20. Ông/bà muốn tiếp cận với các lựa chọn điều trị phẫu thuật bổ sung cho bệnh thoái hóa khớp của mình (ví dụ: thay khớp gối toàn phần, nội soi khớp). Chọn một đáp án:

Hoàn toàn không đồng ý 1

Không đồng ý 2

Không đồng ý cũng không phản đối 3

Đồng ý 4

Rất đồng ý 5

21. Ông/bà muốn tiếp cận các lựa chọn điều trị bổ sung không dùng thuốc/không phẫu thuật cho bệnh thoái hóa khớp của mình (ví dụ: kiểm soát cân nặng, phòng ngừa chấn thương, các chương trình tập thể dục). Chọn một đáp án:

Hoàn toàn không đồng ý 1

Không đồng ý 2

Không đồng ý cũng không phản đối 3

Đồng ý 4

Rất đồng ý 5

Trong phần khảo sát này, vui lòng đọc từng câu hỏi, xin hãy đánh giá thành thật và chọn những câu trả lời phù hợp nhất cho mỗi câu hỏi.

22. Ông/bà đánh giá chất lượng cuộc sống của mình như thế nào?

Rất kém 1

Kém 2

Không kém cũng không tốt 3

Tốt 4

Rất tốt 5

23. Nếu ông/bà không bị thoái hóa khớp, ông/bà đánh giá chất lượng cuộc sống của mình như thế nào? Chọn một đáp án:

Rất kém 1

Kém 2

Không kém cũng không tốt 3

Tốt 4

Rất tốt 5

24. Ông/bà muốn nhận kết quả của nghiên cứu này:

Có 1

Không 2

25. Ông/bà muốn tham gia vào các cuộc khảo sát trong tương lai:

Có 1

Không 2

C. Thông tin y tế bổ sung

26. Ông/bà được chẩn đoán bị thoái hóa khớp bao lâu rồi?.....năm.

27. Kiểu hình Cushing

1. Có 2. Không

28. Ông/bà có nghĩ rằng thoái hóa khớp là một bệnh có thể chữa khỏi hoàn toàn không?

1. Có 2. Không

Nếu có, đi đến câu hỏi số 29, nếu không thì đi đến câu hỏi số 32

29. Tại sao ông/bà lại nghĩ như vậy?

1. Có người nói với tôi (người thân/dược sĩ...)

2. Tôi xem quảng cáo trên truyền hình/facebook/youtube/...

3. Tôi đọc trên tạp chí/tờ rơi,...

4. Đó là suy nghĩ của riêng tôi

30. Ông/bà có nghĩ rằng hiện tại có một loại thuốc có thể điều trị hoàn toàn bệnh thoái hóa khớp?

1. Có 2. Không

Nếu có, đi đến câu hỏi số 31, nếu không thì đến câu hỏi số 32

31. Tại sao ông/bà lại nghĩ như vậy?

- 1. Có người nói với tôi (người thân/dược sĩ....)
- 2. Tôi nghe quảng cáo trên truyền hình/facebook/youtube/...
- 3. Tôi đọc trên tạp chí/tờ rơi,...
- 4. Đó là suy nghĩ của riêng tôi

32. Ông/bà có nghĩ rằng ông/bà nên vận động (tập thể dục) mỗi ngày không?

- 1. Có 2. Không

Nếu có, đi đến câu hỏi số 33, nếu không thì đến số 34

33. Ông/bà hãy liệt kê một số bài tập phù hợp cho bệnh thoái hóa khớp (có thể chọn nhiều hơn 1 đáp án)?

- 1. Tôi không biết
- 2. Bơi lội
- 3. Đạp xe tại chỗ
- 4. Đi bộ
- 5. Thái cực quyền
- 6. Yoga
- 7. Môn thể thao khác:
- 8. Đạp xe

34. Ông/bà đã từng nghe về những thông tin liên quan đến thoái hóa khớp chưa?

1. Có 2. Không

35. Ông/bà lấy thông tin từ những nguồn nào?

1. Bác sĩ
 2. Mạng xã hội (Tivi, youtube, facebook, ...)
 3. Người thân
 4. Tạp chí, tờ rơi,...

36. Họ nói gì về thoái hóa khớp?

.....
.....
.....
.....
.....

37. Ông/bà đã bao giờ tự ý dùng thuốc điều trị thoái hóa khớp mà không có sự tư vấn từ bác sĩ không?

1. Có 2. Không

Nếu trả lời của ông/bà là “có”, hãy tiếp tục bảng câu hỏi.

Nếu trả lời của ông/bà là “không”, hãy đi thẳng đến câu hỏi số 41.

38. Ông/bà lấy thuốc từ nguồn nào?

1. Mua qua quảng cáo trên TV/ youtube/ facebook
 2. Mua ở hiệu thuốc
 3. Thuốc nam (không được sản xuất từ bệnh viện)
 4. Nguồn khác:

39. Tại sao ông/bà lấy thuốc từ các nguồn trên mà không phải từ bệnh viện/ phòng khám? (có thể chọn nhiều hơn 1 đáp án)

1. Vì tôi tin rằng loại thuốc được quảng cáo trên TV/facebook/youtube có thể điều trị bệnh thoái hóa khớp của tôi.
 2. Vì tôi không tin tưởng nhân viên y tế
 3. Vì nó tiện lợi

4. Khác:

.....

.....

.....

.....

.....

.....

40. Ông/bà có thể kể tên những loại thuốc mà ông bà mua không?

- 1. Tôi không biết
- 2. Paracetamol
- 3. NSAID
- 4. Corticoid
- 5. tiêm glucocorticoid trong khớp
- 6. NSAID bôi tại chỗ
- 7. Thuốc giảm đau/chống viêm
- 8. Thuốc nam
- 9. Khác

41. Ông/bà có nghĩ rằng ông/bà có thể tự kiểm soát cơn đau do thoái hóa khớp và/hoặc cải thiện chức năng khớp không?

- 1. Có
- 2. Không

42. Thuốc nào giúp ông/bà kiểm soát cơn đau? (có thể chọn nhiều hơn 1 đáp án)

- 1. Tôi không biết
- 2. Paracetamol
- 3. NSAID
- 4. Corticoid
- 5. Tiêm glucocorticoid tại khớp
- 6. NSAID bôi tại chỗ
- 7. Kháng viêm giảm đau
- 8. Thuốc nam
- 9. Khác

QUESTIONNAIRE**A. Personal detail**

1. Full name:
2. Medical report number:
3. Occupation (now or in the past): Manual worker (farmer, worker,...)
 Head worker (officer, business, nurse, doctor,...)
 other
4. Education level:
5. Living area: Urban Rural
6. Phone number:

B. Global Osteoarthritis Patient Perception Survey (GOAPPS) questionnaire

Please select your country of primary residence from the menu below:

Italy

Spain

United States

Other, please specify: Vietnam

Are you 18 or older?

Yes xNo

7. What year were you born?
8. Have you ever been diagnosed with osteoarthritis? In other words, has a medical doctor examined you and, based on the exam results, told you that you have osteoarthritis?
Select one:
Yes
No
9. In which joint(s) do you have osteoarthritis? Mark all that apply:
Knee
Hip
Spine
Hand
Other (please specify the location):

10. Have you been diagnosed with any of the following conditions? That is, has a medical doctor ever told you that you had one or more of the conditions listed below? Mark all that apply:

Obesity

Diabetes

Heart disease/Cardiovascular disease

Hypertension

Osteoporosis

Depression

Anxiety

Kidney failure

Liver failure

Gastrointestinal problems

11. What is your biological sex? Select one:

Male

Female

12. Of all the clinical symptoms you have experienced because of osteoarthritis, which do you consider to have the most significant impact on your daily life? Check up to three:

Pain / tenderness

Swelling

Stiffness

Grating sensation

Loss of flexibility

Gait/walk disturbance

Sleep disturbance

Fatigue

Disfigurement

Other symptoms not mentioned

13. Which of the following limitations or issues have you experienced due to osteoarthritis?

Select all that apply:

Limitations to physical activities

Limitations to social interactions

Limitations to work activities

Limitations to sex life

Emotional, psychological, or mental health issues

In this section of the survey, you will read a series of statements. For each statement, indicate your level of agreement.

14. I understand the common causes of osteoarthritis. Select one:

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

15. My doctor understands me when I describe the symptoms I experience due to osteoarthritis. Select one:

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

16. My doctor adequately explained my osteoarthritis diagnosis to me. Select one:

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

17. I understand my osteoarthritis treatment options and the associated risks of each option.

Select one:

Strongly disagree

Disagree

Neither agree nor disagree

Agree

Strongly agree

18. I am satisfied with my current osteoarthritis treatment plan. Select one:

Strongly disagree

Disagree Neither agree nor disagree Agree Strongly agree

19. I would like access to additional drug treatment options for my osteoarthritis (for example: glucosamine, chondroitin, NSAIDs, analgesics such as ibuprofen or acetaminophen, hyaluronic acid, corticosteroids)

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

20. I would like access to additional surgical treatment options for my osteoarthritis (for example: total knee replacement, arthroscopy). Select one:

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

21. I would like access to additional non-drug /non-surgical treatment options for my osteoarthritis (for example: weight management, injury prevention, exercise programs).

Select one:

Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree

In this section of the survey, please read each question, assess your feelings, and select the option that gives the best answer for you for each question.

22. How would you rate your quality of life?

Very poor

Poor

Neither poor nor good

Good

Very good

23. If your osteoarthritis were eliminated, how would you rate your quality of life? Select one:

Very poor

Poor

Neither poor nor good

Good

Very good

24. I am interested in receiving cumulative survey results

Yes

No

25. I am interested in participating in future surveys

Yes

No

C. Further medical information

26. How long have you been diagnosed with OA?

27. Cushingoid appearance

Yes

No

28. Do you think that OA is a reversible disease?

Yes

No

If yes, refer to question no. 29, otherwise go to no.32

29. Why do you think so?

Someone told me (relative/pharmacist....)

I hear on the advertisers on television/facebook/youtube/...

I read on the magazine/ leaflets, ...

That's my own thought

30. Do you think that there is a drug that could treat OA completely?

Yes No

If yes, refer to question no. 31, or otherwise go to no.32

31. Why do you think so?

- Someone told me (relative/pharmacist....)
- I hear on the advertisers on television/facebook/youtube/...
- I read on the magazine/ leaflets, ...
- That's my own thought

32. Do you think that you should be active (do exercise) every day?

Yes No

If yes, refer to question no. 33, or otherwise go to no.34

33. Can you list some appropriate exercises for OA patient (can choose more than 1 answer)?

- I don't know
- Swimming
- Stationary cycling
- Jogging
- Taichi
- Yoga
- Other:

34. Have you ever heard about the information related to OA?

Yes No

35. Which sources do you get information from? Mark all that apply:

- Physician
- Social media (TV, youtube, facebook, ...)
- Relatives
- Magazine, leaflets, ...

36. What do they say about OA?

.....

.....

.....

.....

.....

.....

37. Have you ever taken drug to treat OA without advice from physician?

- Yes No

If your question is "yes", continue the questionnaire.

If your question is "no", go straight to the question number 41.

38. Which source did you get drug? Mark all that apply:

- Bought via advertise on TV
- Bought via advertise on youtube
- Bought via advertise on facebook, ...
- Bought in pharmacy store
- Herbal medicine from relatives

39. Why you get drug from them but not from hospital/ clinic? Mark all that apply:

- Because I believe that the drug on the advertise on TV/facebook/ youtube could treat my OA completely.
- Because I do not trust in health care worker
- Because it is convenient
- Other:

.....

.....

.....

.....

40. Can you list kind of these drugs? Mark all that apply:

- I don't know
- Paracetamol
- NSAID

- Corticoid
- intraarticular glucocorticoid injections
- topical NSAIDs
- Other

41. Do you think that you can manage OA (control pain and/or improve joint function) by yourself?

- Yes
- No

42. What agents help you to manage pain due to OA? Mark all that apply:

- I don't know
- Paracetamol
- NSAID
- Corticoid
- Intraarticular glucocorticoid injections
- Topical NSAIDs
- Other

DANH SÁCH BỆNH NHÂN THAM GIA NGHIÊN CỨU

Tên đề tài: KHẢO SÁT KIẾN THỨC VÀ THỰC HÀNH VỀ VẤN ĐỀ TỰ QUẢN LÝ BỆNH THOÁI HOÁ KHỚP Ở NHỮNG BỆNH NHÂN TẠI BỆNH VIỆN TRUNG ƯƠNG QUÂN ĐỘI 108 VÀ BỆNH VIỆN ĐA KHOA QUỐC TẾ VINMEC THEO PHÁC ĐỒ QUỐC TẾ

Chủ nhiệm đề tài: Nguyễn Thị Hồng Nhi

Giảng viên hướng dẫn: PGS.TS Nguyễn Ngọc Châu

Đơn vị: Chương trình Bác sĩ nội trú Nội khoa, trường đại học VinUni

STT	Tên	Số hồ sơ	Năm sinh
1	NGUYEN THI C.	23918738	1945
2	TRAN THI N.	23914408	1942
3	DUONG THI H.	24245918	1952
4	NGUYEN THI X.	24253259	1961
5	TRAN THI G.	24251230	1953
6	NGUYEN THI D.	24243458	1957
7	LY THI M.	23822578	1971
8	NGUYEN THI H.	23823217	1962
9	BACH THI KIM L.	24056691	1963
10	VAN THANH H.	24146737	1968
11	LE THI D.	23819531	1949
12	NGUYEN THU N.	24120114	1954
13	DOAN VAN C.	24126664	1972
14	NGUYEN THI L.	24107656	1969
15	PHAM THI L.	23980628	1948
16	LE THI T.	23865718	1948
17	TRAN HUU T.	23897282	1954
18	DO THI H.	23796121	1966
19	NGUYEN THANH S.	24126345	1971
20	DAO THI S.	23777111	1947
21	TU THI N.	23857934	1950
22	NGUYEN THI C.	23846597	1954
23	LE QUANG H.	24148098	1957
24	PHAM VAN P.	24166723	1942
25	DANG THI T.	24160699	1949
26	BUI THI Q.	24125759	1957
27	NGO THI T.	24134270	1960
28	NGO THI M.	24141213	1958



29	NGUYEN THI T.	24136655	1959
30	VU THI S.	23878890	1960
31	NGUYEN THI M.	23873831	1964
32	TRIEU QUANG L.	23875651	1968
33	LE THI B.	23879454	1950
34	TRAN THI T.	23945274	1957
35	DUONG THI H.	23983746	1953
36	TRAN THI MAI H.	23964855	1962
37	TRAN THI H.	23957012	1951
38	PHAM VAN T.	24210403	1946
39	NGUYEN THI V.	24201606	1958
40	LE THI N.	24218183	1959
41	HOANG THI T.	23909295	1969
42	NGUYEN THI M.	23898086	1955
43	LE THI T.	23952527	1945
44	VU HUY K.	23992163	1944
45	DAO THI N.	23977365	1962
46	DOAN TRONG N.	23961236	1950
47	PHAM THI S.	24167180	1948
48	LE THI KY H.	24170332	1945
49	DANG THI D.	24189445	1940
50	LE HUU L.	23835400	1949
51	CHU MANH H.	23835749	1952
52	KHU QUOC B.	23830613	1949
53	LE THI N.	24198786	1943
54	VO THI D.	24202777	1966
55	DINH MANH T.	24227887	1957
56	PHAN THI V.	23849107	1957
57	NGUYEN THI H.	23840090	1960
58	NGUYEN THI L.	24224034	1951
59	VU THI M.	24248347	1969
60	NGUYEN THI T.	23186742	1950
61	TRAN VAN Q.	23779877	1972
62	DO VAN D.	23785680	1958
63	VU THI M.	24148348	1948
64	DINH DONG A.	818033697	1946
65	HOANG THI H.	819082366	1974
66	NGUYEN TRAN H.	815005475	1977
67	LE THI C.	821040730	1963
68	NGUYEN THI B.	812008867	1963



69	LE DINH S.	816029063	1960
70	BUI THANH N.	821009251	1962
71	LE THI VIET H.	816014041	1979
72	NGUYEN THE C.	816034159	1971
73	TRUONG THI L.	201261764	1962
74	NGUYEN THI T.	201261852	1976
75	TRAN ANH T.	813013604	1973
76	NGUYEN THI N.	201262561	1940
77	TRAN THI L.	201024462	1959
78	TRAN THI L.	821068160	1962
79	TRAN THI T.	201262507	1960
80	NGUYEN QUANG T.	821020025	1950
81	DINH THI H.	817031082	1939
82	NGUYEN VAN T.	201267347	1954
83	DO VAN T.	201070596	1968
84	TRINH THI B.	201267195	1965

Xác nhận của cơ sở nghiên cứu
 Bệnh viện Trung Ương Quân Đội 108

**GIÁM ĐỐC
 TP-KẾ HOẠCH TỔNG HỢP**

 Đại tá
BSCKII. Bùi Việt Hùng

Xác nhận của cơ sở nghiên cứu
 Xác nhận của bệnh viện Vinmec



TP KHTH
 Bùi Việt Dũng

Xác nhận của giảng viên hướng dẫn


 Đại tá
PGS.TS.BSCKII Nguyễn Ngọc Châu

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THESIS SUBMISSION FORM

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<p>Abstract/Summary</p> <p>Introduction: Osteoarthritis (OA) is a degenerative joint disease. Self- management is the key in controlling chronic disease such as OA. The knowledge, attitude and belief about the disease affects how patients manage their condition. This study aims to evaluate the knowledge and practice of OA patients. Based on the data in this study, we would help correct the related policies to improve self-management ability among OA patients.</p> <p>Aims: Primary objectives: To investigate the level of knowledge and practice among OA patients. Secondary objectives: Suggest proper policies to help improve OA management among those patients.</p> <p>Method: The study is a cross- sectional study. Convenient sampling was employed at 108 Military Central hospital and Vinmec hospital from May to November 2023.</p> <p>Result: There are 20.2% and 17.9% of patients have knowledge about common causes/risk factors and OA therapies, respectively. 57% of patients are not adequately explained about their illness. 53.6% of patients receive information about OA from social media platforms. 41.7% of patients admit to lacking awareness of suitable exercises for managing OA. About 10.7% of patients could manage joint pain. 58.3% of individuals with OA self-administer medication without guidance from a physician.</p> <p>Conclusion: Physicians should explain to patients the cause/risk factors of OA, how to manage pain and improve joint function using both medication and non-medication methods and provide them with short papers, brochures, and other sources of information.</p>			

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