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### RESEARCH ARTICLE

#### PHYSICIAN PERCEPTION ON COMMON HAND CONDITION, AND THEIR REFERRAL PATTERN

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#### Abstract

**Background:** Several hand conditions have an overlap in term of management by surgeons from different departments. They usually rely on referrals from general health providers. Suitable referral depends on the knowledge and understanding of the referring physicians to the problem and the best available treatment. Recently the number of referrals and operations of elective hand surgeries increased by more than 30%. Physician from different specialties can sometimes disagree on their perception on what is the best treatment option for the patient.

**Aim:** to study physician's perception on common hand condition, and their referral pattern.

**Material and Method:** The research was conducted using a survey with a sample size of 102 focusing on health care providers from King Abdul-Aziz University Hospital and they were collected by convenience sampling. The raw data was collected in an excel sheet. We used SPSS statistics 21st for quantitative data analysis.

**Results:** The results gave us a general idea that there is a lot of difference of understanding to the hand conditions and which should be referred to where, with orthopedic being the most referred to Speciality.

**Conclusion:** Referral for different hand and wrist conditions remains unclear to many practicing physicians at our institute. Establishment of a separate hand and wrist unit/clinic that includes all individual specializations may help improve patient care and wait timing.

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#### Introduction:-

Several hand conditions have an overlap in term of management by surgeons from different departments, thus it is important to have the patient treated by the best specialty regarding the condition. In many health systems, the general practitioner or primary care gatekeeper role is considered a vital component of demand management, restricting access to secondary care based on identified need, thus restraining healthcare costs (1).

In the hands, 4 of the commonest conditions are: 1. Trigger finger or thumb, 2. Carpal tunnel syndrome, 3. Base of thumb (CMCJ) arthritis, 4. Dupuytren's disease. (2)

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Hand surgeons rely on referrals from general health providers. Suitable referral depends on the knowledge and understanding of the referring physicians to the problem and the best available treatment (3). Referring patient to the best appropriate specialty has a huge effect on the quality of care that they receive as it will lead to prompt the diagnosis and treatment of the patient conditions (4).

Recently the number of referrals and operations of elective hand surgeries increased by more than 30%. Among the different types of hand conditions carpal tunnel syndrome was the most common cause for elective referral followed by ganglion and osteoarthritis (5).

Physician from different specialties can sometimes disagree on their perception on what is the best treatment option for the patient (6). Thus this research aims to study physician's perception on common hand condition, such as carpal tunnel syndrome, trigger finger and De Quervain's Tendonitis and their referral pattern.

### **Rationale**

The importance of working on this research lies in finding the extent to which doctors perceive and know about different cases of hand and wrist problems or diseases, The therapist could be a surgeon, and the therapist could be an Orthopedic surgeons or Physiotherapist or Plastic surgeons or rheumatologist, Therefore, we are interested in looking at the angles of all disciplines to know the common and known cases of the hand, which helps in reducing the spread of various hand and wrist problems or reducing them somewhat.

### **Literature Review:-**

We have been looking and exploring about finding previous studies that are identical to our study within the framework of the Kingdom of Saudi Arabia first and then the framework of the world, but there are no studies that match the same goal or academic research meaning.

### **Research Question**

This research was conducted for answering the following research question the perception on common hand condition, and their referral pattern.

### **Aim**

This research aims to study physician's perception on common hand condition, and their referral pattern.

### **Objectives:-**

This research aims to fulfil the following research objectives.

1. Physicians' perception of common hand conditions in connection with their different specialization.
2. Ask the common problems of hand conditions and consider the experience of doctors

### **Method and Design:-**

The research was conducted using an electronic survey with a sample size of 102 focusing on health care providers from King Abdul-Aziz University ranging from general physicians to specialists from different departments and they were collected by convenience sampling. The survey addressed 14 common hand conditions (wrist injuries, metacarpal fractures, phalangeal fractures, hand and wrist tendon lacerations, carpal tunnel syndrome, De Quervain's tenosynovitis, trigger finger, wrist tendinitis, dorsal wrist ganglion, hand (skin) tumor, congenital hand anomalies, hand infections, hand and finger osteoarthritis, hand and fingers inflammatory arthritis) and 5 specialties to refer (plastic surgeon, orthopedic surgeon, rheumatologist, neurosurgeons, physiotherapist).

### **Research Settings and Population**

This research was conducted to many doctors located in Saudi Arabia. The sample population was recruited by using an inclusion and exclusion criteria, such that the inclusion criteria: only physician's. The participants were contacted by the researchers and were invited in the research. The individuals willing to participate in the research were further briefed about the research-related details, and a total of N= 100 participants were selected for this research.

### Data Collection and Data Analysis

The data collection of this research was conducted by using a questionnaire focused on the doctors in certain specialties are affiliated with cases related to the hand and wrist, The consultant assessed the validity of the research questionnaire. The questionnaire comprised of the close-ended questions, and respondents were asked to return the filled questionnaires to the researchers. The data analysis for this research was carried out by using the Statistical Package for the Social Sciences (SPSS). The statistical tests of descriptive statistics, as well as correlation analysis, were conducted for this research.

### Ethical Considerations

This research was conducted after acquiring ethical approval from the Institutional Review Board (IRB). biomedical unit of King Abdulaziz University hospital. The individuals willing to participate in the research were included in the research, and informed consent was acquired from them, prior to participation. The research participants were allowed to withdraw from the research due to any reason, without any penalty. For protecting the individuals from the risk of harm, the responses from the filled questionnaires were entered into the software. Each response was coded by using a five-digit code for assuring the confidentiality of personal information of the respondents, and all responses were saved within a password-protected file. It was also assured to discard the data after completion of the research.

### Budget

This research was self-funded by the researcher.

### Results:-

Who do you think is/are an expert in wrist injuries?

	Frequency	Percent
Neurosurgeons	4	4%
Orthopedic surgeons	66	66%
Physiotherapist	1	1%
Plastic Surgeon	28	28%
Rheumatologist	1	1%
<b>Total</b>	100	100%

Who do you think is/are an expert in Metacarpal fractures?

	Frequency	Percent
Orthopedic surgeons	90	90%
Plastic surgeons	10	10%
<b>Total</b>	100	100%

Who do you think is/are an expert in hand phalangeal fractures?

	Frequency	Percent
Orthopedic surgeons	77	77%
Physiotherapist	1	1%
Plastic surgeons	20	20%
rheumatologist	2	2%
<b>Total</b>	100	100%

Who do you think is/are an expert in hand and wrist tendon lacerations?

	Frequency	Percent
Neurosurgeons	6	6%
Orthopedic surgeons	32	32%
Physiotherapist	1	1%
Plastic surgeon	61	61%
<b>Total</b>	100	100%

Who do you think is/are an expert in carpal tunnel syndrome?

	Frequency	Percent
Neurosurgeons	39	39%
Orthopedic surgeons	38	38%
Plastic surgeon	19	19%
Rheumatologist	4	4%
<b>Total</b>	100	100%

Who do you think is/are an expert in de quervain tenosynovitis

	Frequency	Percent
Neurosurgeons	2	2%
Orthopedic surgeons	45	45%
Physiotherapist	1	1%
Plastic surgeon	14	14%
Rheumatologist	38	38%
<b>Total</b>	100	100%

Who do you think is/are an expert in trigger finger?

	Frequency	Percent
Neurosurgeons	9	9%
Orthopedic surgeons	55	55%
physiotherapist	5	5%
Plastic surgeon	21	21%
Rheumatologist	10	10%
<b>Total</b>	100	100%

Who do you think is/are an expert in wrist tendinitis?

	Frequency	Percent
Neurosurgeons	1	1%
Orthopedic surgeons	45	45%
Physiotherapist	1	1%
Plastic surgeon	8	8%
Rheumatologist	45	45%
<b>Total</b>	100	100%

Who do you think is/are an expert in dorsal wrist ganglion?

	Frequency	Percent
Neurosurgeons	34	34%
Orthopedic surgeons	30	30%
Physiotherapist	1	1%
Plastic surgeon	32	32%
Rheumatologist	3	3%
<b>Total</b>	100	100%

Who do you think is/are an expert in hand (skin) tumors?

	Frequency	Percent
Neurosurgeons	3	3%
Orthopedic surgeons	14	14%
Plastic surgeon	81	81%
Rheumatologist	2	2%
<b>Total</b>	100	100%

Who do you think is/are an expert in congenital hand anomalies?

	Frequency	Percent
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<b>Neurosurgeons</b>	1	1%
<b>Orthopedic surgeons</b>	36	36%
<b>Physiotherapist</b>	1	1%
<b>Plastic surgeon</b>	62	62%
<b>Total</b>	100	100%

Who do you think is/are an expert in hand infections?

	<b>Frequency</b>	<b>Percent</b>
<b>Orthopedic surgeons</b>	25	25%
<b>Plastic surgeon</b>	45	45%
<b>Rheumatologist</b>	30	30%
<b>Total</b>	100	100%

Who do you think is/are an expert in hand and fingers osteoarthritis?

	<b>Frequency</b>	<b>Percent</b>
<b>Orthopedic surgeons</b>	29	29%
<b>Physiotherapist</b>	1	1%
<b>Plastic surgeon</b>	4	4%
<b>Rheumatologist</b>	66	66%
<b>Total</b>	100	100%

Who do you think is/are an expert in hand and fingers inflammatory arthritis?

	<b>Frequency</b>	<b>Percent</b>
<b>Orthopedic surgeons</b>	13	13%
<b>Plastic surgeon</b>	1	1%
<b>Rheumatologist</b>	86	86%
<b>Total</b>	100	100%

With regards to Wrist/hand injuries: (wrist injuries, metacarpal fractures, phalangeal fractures and wrist and tendon lacerations) the results shows that most physicians who participated in the study have agreed on the referral to orthopedic surgeons except for the lacerations where most 61% agreed that it should be referred to plastic surgeons.

On the other hand, when it came to inflammatory issues: (carpal tunnel syndrome, de Quervain tenosynovitis, trigger finger and wrist tendinitis) there was a disagreement on to whom the patient should be referred to. There was a split decision for referral of patients with de quervain tendinitis with 45% for both orthopedics and rheumatology. Similar results for carpal tunnel syndrome where there was 39% agreeing it should be referred to neurosurgeons and 38% agreeing on referral to orthopedics.

Hand and wrist skin anomalies/features: (wrist ganglions, hand(skin) tumor, congenital hand anomalies and hand infections) wrist ganglions and hand infections had the most debate as 34% said that wrist ganglions should be referred to neurosurgeons, 32% said it should be referred to plastic surgeons and 30% said it should be referred to orthopedic surgeons.

As for hand infections the majority 45% agreed on that it should be referred to plastic surgeons but 30% agreed on referral to rheumatologist and 20% agreed on referral to orthopedics. While hand tumors and hand anomalies the majority agreed on it being referred to plastic surgeons.

#### **Joints inflammatory diseases: (osteoarthritis and fingers inflammatory arthritis)**

This group had a very strong agreement that it should be referred to rheumatologists with 66% saying that osteoarthritis should be referred to rheumatologists and 86% agreed on the fingers inflammatory arthritis to be referred to rheumatologists. This shows us that knowledge about joints inflammations are known to where they should be refers and there is proper knowledge about them.

**Discussion:-**

This study is the first of its kind in our country (to the best of our knowledge) which could be considered as a base line study on which future research studies for comparison in our country and to hopefully help in elevating the primary health care in Saudi Arabia. Patients with hand complains need to have a proper referral, since primary health care in Saudi Arabia have been reported in a previous study to have poor effective referral pattern (7). This study aims to assess the physician's perception on common hand conditions and their referral pattern.

These results gave us an idea that physicians might have difficulty on where to refer these issues and could indicate poor knowledge about the treatments available for it.

**Conclusion:-**

referral for different hand and wrist conditions remains unclear to many practicing physicians at our institute. Establishment of a separate hand and wrist unit/clinic that includes all individual specializations may help improve patient care and wait timing.

**Recommendation:-**

This unique research study, despite its importance, was supposed to have existed for a long time. It is difficult for a specialist doctor to differentiate between diseases that fall under his specialty or others, and this concerns only similar diseases that may be treated by more than one doctor and more than one specialty, We address the request and hope to work on the following: First: To raise awareness among doctors about related hand and wrist problems that are common under each specialty, to prevent confusion, Second: To work on building a special unit for hand and wrist disease problems.

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