Case Report: Schizophrenia Discovered during the Patient Interview in a Man with Shoulder Pain Referred for Physical Therapy

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ABSTRACT

Purpose: The purpose of this case report is to demonstrate the importance of a thorough patient interview. The case involves a man referred for physical therapy for a musculoskeletal dysfunction; during the patient interview, a psychiatric disorder was recognized that was later identified as schizophrenia. A secondary purpose is to educate physical therapists on the recognizable signs and symptoms of schizophrenia.

Client description: A 19-year-old male patient with chronic shoulder, elbow, and wrist pain was referred for physical therapy. During the interview, the patient reported that he was receiving signals from an electronic device implanted in his body.

Measures and outcome: The physical therapist's initial assessment identified a disorder requiring medical referral. Further management of the patient's musculoskeletal dysfunction was not appropriate at this time.

Intervention: The patient was referred for further medical investigation, as he was demonstrating signs suggestive of a psychiatric disorder. The patient was diagnosed with schizophrenia by a psychiatrist and was prescribed Risperdal.

Implications: This case study reinforces the importance of a thorough patient interview by physical therapists to rule out non-musculoskeletal disorders. Patients seeking neuromusculoskeletal assessment and treatment may have undiagnosed primary or secondary psychiatric disorders that require recognition by physical therapists and possible medical referral.

Key Words: patient interview, physical therapy assessment, psychiatric disorder, referral source, schizophrenia

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RÉSUMÉ

Objectif : L'objectif de cette étude de cas consiste à démontrer l'importance de réaliser des entrevues en profondeur avec les patients. Le cas étudié concerne un homme dirigé vers la physiothérapie en raison d'une dysfonction musculosquelettique. Au cours de l'entrevue avec ce patient, un problème psychiatrique a été décelé; par la suite, de la schizophrénie a été diagnostiquée. Le deuxième objectif de cette étude de cas est d'éduquer et de sensibiliser les physiothérapeutes aux signes et aux symptômes aisément reconnaissables de la schizophrénie.

Description du client : Le patient est un jeune homme de 19 ans qui souffre de douleurs chroniques à l'épaule, au coude et au poignet et qui avait été dirigé en physiothérapie. Au cours de l'entrevue, le patient a déclaré qu'il recevait des signaux provenant d'un appareil électronique implanté dans son corps.

Mesures et résultats : L'évaluation préliminaire du physiothérapeute a permis d'identifier un problème qui nécessitait que le patient soit redirigé vers un médecin. Une gestion plus poussée de la dysfonction musculosquelettique de ce patient a été jugée inappropriée à cette étape.

Intervention : Le patient a été dirigé vers une investigation médicale plus approfondie, puisqu'il manifestait des signes de possibles problèmes psychiatriques. Le patient a par la suite été diagnostiqué comme schizophrène et on lui a prescrit du Risperdal.

Implication : Cette étude de cas vient réaffirmer l'importance, pour le physiothérapeute, de procéder à des entrevues approfondies avec les patients pour s'assurer qu'il n'y a pas d'autres problèmes que les seules dysfonctions musculosquelettiques. Les patients qui souhaitent obtenir une évaluation et un traitement musculosquelettique peuvent souffrir aussi d'un problème psychiatrique primaire ou secondaire non diagnostiqué qui exige d'être reconnu par le physiothérapeute et qui nécessitera vraisemblablement une attention médicale ultérieure.

Mots clés : Entrevue avec le patient, évaluation en physiothérapie, source de renvoi, patient redirigé, problème psychiatrique, schizophrénie.

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INTRODUCTION

A recent US study demonstrated that less than one-third of diagnoses provided to physical therapists by primary-care physicians are specific.¹ The same study illustrated that physical therapists must assume a greater diagnostic role and must routinely provide medical screening and differential diagnosis of pathology during the examination.¹ Similarly, studies conducted in Australia and Canada have concluded that the majority of referrals for physical therapy are not provided with a specific diagnosis.^{2,3} Medical screening is important, since physical therapists are increasingly functioning as the primary contact for patients with neuromusculoskeletal dysfunctions,^{4,5} which means a greater likelihood of encountering patients with non-musculoskeletal disorders, including psychiatric disorders.

As demonstrated by the World Health Organization's International Classification of Functioning, Disability and Health, it is imperative to take an individual's psychological state into account, since disorders in this area can lead to disability.⁶ Many psychiatric conditions are commonly encountered in physical therapy practice; for example, depression, anxiety, and fear-avoidance have all been associated with low back, neck, and widespread musculoskeletal pain.⁷⁻⁹ These psychiatric disorders have been identified both as risk factors for musculoskeletal dysfunction and as an important secondary psychosocial aspect of disablement.⁷⁻¹⁰ It is therefore important for physical therapists to consider the primary and secondary roles of psychopathology in disability.

Although various models of primary-care physical therapy have demonstrated physical therapists' expertise in the realm of neuromusculoskeletal dysfunctions, there is a need for increased competencies in academic, clinical, and affective domains.⁵ Few et al. propose a hypothesis-oriented algorithm for symptom-based diagnosis through which physical therapists can arrive at a diagnostic impression.¹¹ This algorithm takes into account the various causes of pathology, including psychogenic disorders.¹¹ Although additional research is necessary to validate Few et al.'s algorithm, it provides one model that considers underlying pathologies in determining the appropriateness of physical therapy intervention.¹¹ The present case report further illustrates the importance of considering the patient's affective and psychological state in order to more effectively screen for and identify psychiatric disorders that require medical referral.

The purpose of this case report is to demonstrate the importance of a thorough patient interview. We present the case of a man, referred for physical therapy for a musculoskeletal dysfunction, who was determined during the patient interview to have an undiagnosed psychiatric disorder, later identified as schizophrenia. In addition, this report is intended to educate physical

therapists about the recognizable signs and symptoms of schizophrenia.

CASE DESCRIPTION

The patient was a 19-year-old male university student. His recreational activities included skateboarding, snowboarding, break dancing, and weight training. The patient first sought medical attention from a sport medicine physician in January 2006, when he reported right lateral wrist pain since falling and hitting the ulnar aspect of his wrist while skateboarding in October 2005. Plain film radiographs taken after the injury were negative, and the patient did not receive any treatment. The physician found no wrist swelling, minimal tenderness over the ulnar aspect of the right wrist, full functional strength, and minimally restricted range of motion (ROM). The patient was given ROM exercises and was diagnosed with a right wrist contusion.

Over the next 22 months, the patient returned to the same sport medicine clinic 10 times, reporting pain in his wrist, shoulder, elbow, knee, ankle, and neck. He stated that the elbow, wrist, and shoulder injuries were due to falls while skateboarding and snowboarding or to overuse during weight training; some injuries had no apparent cause. Over the course of his medical care, the patient followed up with three different physicians at the same clinic. He was diagnosed by these physicians, in order of occurrence, with (1) right wrist contusion and sprain; (2) right wrist impingement and left wrist strain; (3) right shoulder supraspinatus tendinopathy; (4) right peroneal overuse injury and strain; (5) disuse adhesions of the right peroneals and right hip adhesions; (6) right ankle neuropathic pain secondary to nerve injury and sprain and right-knee patellofemoral pain syndrome (PFPS); (7) neuropathic pain of the right peroneal nerve; (8) trauma-induced left-knee PFPS; (9) ongoing post-traumatic left-knee PFPS; and (10) right levator scapula strain, chronic right infraspinatus strain, right elbow ulnar ridge contusion, and right wrist chronic distal ulnar impingement secondary to malaligned triangular fibrocartilage complex (TFCC).

After his tenth visit to a physician, the patient was referred for physical therapy for chronic right levator scapula strain and right supraspinatus strain. During the interview, the patient stated that he had right shoulder pain because of a snowboarding injury sustained 1 year earlier and because of a fall onto the lateral right shoulder 2 years ago. Aggravating activities to the shoulder included pull-ups, rowing, and free weights. No position or movement alleviated his pain, and the pain did not fluctuate over the course of the day. His sleep was disturbed only when lying on the right shoulder. The patient was in generally good health, but he said that his right wrist and left knee occasionally felt cold for no apparent reason. He denied experiencing any loss of

sensation, decreased blood flow, or numbness or tingling in the knee and wrist. The patient said he believed that his knee and wrist became cold as a result of electromagnetic impulses sent to the joint via an electrical implant in his body and that this device was the cause of his ongoing shoulder pain.

According to the patient, this device had been implanted into his body 2 years earlier by a government organization (the Central Intelligence Agency, the US government, or the US Army) to control his actions. Electromagnetic impulses generated by the implant had caused his falls and injuries; they also caused his joints to become cold or painful when he was doing something “they” did not want him to do, such as break dancing, snowboarding, skateboarding, or exercising. The patient also believed that many other people unknowingly had implants; he claimed that friends, neighbours, professors, and strangers were “working with them” and that they “emotionally abuse[d]” him by giving signs such as kicking a leg back to let him know he was being watched. Furthermore, he indicated that he often received commands telling him to harm his friends or family and that these orders came either from the electrical implant or from the people he claimed were emotionally abusing him. He therefore distanced himself from some friends because he did not want to follow through with these commands. I asked the patient if he felt he would harm himself or others because of his psychotic-like symptoms. He denied any desire to inflict harm on himself or others. Had he posed a threat to himself or others, he would have been “formed” (i.e., committed to a psychiatric facility by the appropriate medical professional).

The patient’s past medical and family history were unremarkable. He did not use any prescription or over-the-counter medications, but he felt his thoughts about electrical implants were decreased by the use of marijuana, which he used socially. He was a non-smoker and a social consumer of alcohol. He had a normal gait and appeared comfortable in an unsupported seated position. He denied any weight changes, bowel or bladder problems, night pain, or difficulty breathing.

PHYSICAL EXAMINATION

The patient reported a maximum verbal numeric pain rating scale (NPRS) score of 8/10 and a minimum score of 0/10, with pain usually present in the shoulder. In a double-blind, placebo-controlled, multi-centre chronic pain study, when the baseline NPRS raw score fluctuated by 0 points, the sensitivity and specificity were 95.32% and 31.80% respectively;^{12,13} when there was a 4-point raw score change, the sensitivity and specificity were 35.92% and 96.92% respectively.¹² The patient stated that when he experienced shoulder pain, it was located on the anterior, posterior, and lateral aspects of his shoulder and radiated down to his elbow and wrist. He reported 0/10 shoulder pain while seated.

Standing posture was assessed in the frontal and sagittal planes.¹⁴ The patient had a mild forward head posture and internally rotated glenohumeral joints in the sagittal plane. The frontal-plane analysis revealed a slight elevation of the right shoulder and level iliac crests. Such visual assessment of cervical and lumbar lordosis has an intrarater reliability of $k = 0.50$ but an interrater reliability of $k = 0.16$.¹⁵

In the frontal plane, the right scapula was abducted four finger-widths from the mid-thoracic spine, and the left scapula was abducted three finger-widths. The scapulas were superiorly rotated bilaterally. Surface palpation of the acromial angle, inferior angle, and spine of the scapula differed less than 0.98 cm, 0.46 cm, and 0.67 cm, respectively, from the actual bony location, with a 95% confidence interval.¹⁶ There was visible hypertrophy of the pectoralis major muscle bilaterally. Active and passive ROM were tested for the shoulders as recommended by Magee.¹⁴ The patient had full bilateral active ROM, with minimal pain at end-range flexion and abduction that was not increased with overpressure in accordance with Magee.¹⁴ He had full passive ROM with no pain reported.

Manual muscle testing based on Hislop and Montgomery revealed 4/5 strength of external rotation at 0° and 45° of abduction, with pain reported along the anterolateral shoulder.¹⁷ Testing also showed 3/5 strength and no pain with resisted abduction with the arm at the side at approximately 30° of abduction.¹⁸ Manual muscle testing is a useful clinical assessment tool, although a recent literature review suggested that further testing is required for scientific validation.¹⁸ Palpation of the shoulder, as described by Hoppenfeld, revealed slight tenderness over the greater tubercle, as well as along the length of the levator scapula muscle.¹⁹

Special tests were negative for the sulcus sign, Speed’s test, the drop arm test, and the empty can test, as described by Magee.¹⁴ Research shows that Speed’s test has a sensitivity and specificity of 32% and 61% for biceps and labral pathology respectively;²⁰ the drop arm test has a sensitivity of 27% and a specificity of 88% as a specific test for rotator cuff tears, and the empty can test has a sensitivity of 44% and a specificity of 90% in diagnosing complete or partial rotator cuff tears.^{20,21} The Neer and Hawkins-Kennedy impingement tests were both negative.¹⁴ According to a meta-analysis by Hegedus et al., the Neer test is 79% sensitive and 53% specific, while the Hawkins-Kennedy test is 79% sensitive and 59% specific, for impingement.²¹

EVALUATION

I (NS) diagnosed the patient with mild supraspinatus tendinosis, with no evidence of tearing of the rotator cuff muscles, based on the following findings drawn from the patient interview: shoulder pain aggravated by pull-ups, rowing, and free weights; increased pain when lying

on the affected shoulder. Additional significant findings from the physical examination included full shoulder active ROM with minimal pain at end-range flexion and abduction; pain along the anterior lateral shoulder with resisted testing of external rotation at 0° and 45° of abduction; negative drop arm and empty can tests; and tenderness over the greater tubercle of the humerus. The musculoskeletal dysfunction did not explain the level of pain reported by the patient (maximum NPRS 8/10), nor was the physical examination able to reproduce the exact location of the reported shoulder pain or the elbow, wrist, and knee pain described by the patient.

I was concerned about a serious pathology or a psychological disorder, given that this 19-year-old had made 10 medical appointments over 22 months for 6 different regions of the body; in my experience of examining and treating patients between the ages of 18 and 25, the frequency of the appointments and the variation in afflicted body parts are not typical of a young patient. The patient's description of his shoulder pain, in terms of location and severity, was not reproducible by physical examination. Throughout our interview, the patient did not maintain good eye contact, spoke in a monotone voice, and had an overall flat affect. Even when he described his beliefs about implants and government control, his voice and demeanor remained expressionless. The patient described persecutory delusions, command hallucinations, and social isolation from friends and family, all of which are signs of psychosis according to the *Diagnostic and Statistical Manual of Mental Health*.²²

Based on the findings from the patient interview and the physical examination, the patient did have symptoms consistent with a known musculoskeletal dysfunction; however, the undiagnosed and uncontrolled psychiatric symptoms made it more appropriate to refer him back to the physician for evaluation and treatment of his psychosis than to provide physical therapy intervention for his shoulder dysfunction. Furthermore, because research shows that the rate of suicide among patients with schizophrenia can range from 2% or 4% to as high as 15%^{23,24} and that the rate of suicide is highest among patients close to the date of diagnosis, early recognition is crucial.²³

INTERVENTION

Based on the findings from the patient interview and the signs and symptoms of psychiatric disorders, I explained to the patient that there was a need for further medical investigation. Although the patient did not agree with this initial assessment, he did consent to a follow-up with the referring physician.

I spoke to the referring physician in person and explained to him my findings from the patient interview, specifically the patient's belief that he had electrical

implants in his body. I also pointed out the patient's affect and the limited physical findings during the physical examination. I provided the physician with some direct quotes from the patient to demonstrate the level of psychosis he was presenting with. I stated my conclusion that the patient was suffering from some form of psychosis that precluded physical therapy treatment for his shoulder at that time. The referring physician was quite concerned about the patient and called him during our meeting to arrange a follow-up medical appointment.

The physician examined the patient, made similar observations, concurred with my assessment, and concluded that the patient was experiencing some form of psychosis. The plan of care involved referral to a psychiatrist, follow-up with the physician, and explaining to the patient that physical therapy would not be appropriate at this time because of the presence of a serious psychiatric disorder. The patient did not believe that he had a psychiatric disorder, but he was willing to follow up with a psychiatrist. The physician noted that the patient was not a threat to himself or others and that he did not report having homicidal or suicidal thoughts.

The patient followed up with the psychiatrist 11 days after his appointment with the physician. He was diagnosed with schizophrenia and started on a daily dose of risperidone (Risperdal). The patient was also instructed to follow up with the psychiatrist every second week to ensure compliance with the medication and to discuss progress. Further details of the psychiatric assessment and treatment were not available for this case report. Outcomes are also unavailable for this case report, since follow-up by the physical therapist was not possible.

DISCUSSION

Case Summary

This case report describes a 19-year-old man referred to physical therapy with shoulder, wrist, and knee pain who was later diagnosed with a psychiatric disorder. After completing a thorough patient interview and physical examination, I concluded that the patient was suffering from an undiagnosed psychiatric disorder that required medical referral. The interview revealed that the patient had delusions about electrical devices' being implanted in his body and was experiencing various forms of hallucination. The patient was promptly referred for medical consult and was diagnosed with schizophrenia by a psychiatrist.

Patient Symptoms and Schizophrenia

Schizophrenia is a psychiatric disorder affecting between 0.5% and 1.5% of adults worldwide, with a slightly greater prevalence in men.²² The age of onset may be

from 5 to 60 years; however, more than 50% of first episodes occur between the ages of 15 and 24.^{22,25,26} An earlier onset is more common among men, while later onset is more common among women.²⁵ Schizophrenia shows a higher incidence in individuals born in urban areas than in those born in rural areas.^{22,25} Because the patient in the present case fell into several of these categories (male, born in an urban area, experienced onset of symptoms around age 17) and presented with clear symptoms of a psychiatric disorder (delusions, hallucinations), schizophrenia seemed the most likely diagnosis.

The signs and symptoms of schizophrenia are classified as either positive or negative.²² *Positive* symptoms are an excess of normal function and include delusions, hallucinations, and disorganized speech;^{22,27} *negative* symptoms are a deficiency of normal function and include limited goal-directed behaviour (avolition), limited fluency and productivity of speech and thought, and a flat affect.^{22,27} The diagnosis of schizophrenia requires the presence of at least two of these positive or negative symptoms lasting at least 6 months.^{22,27} In this case, the patient presented with delusions (e.g., electrical implants trying to control his and others' actions), including persecutory delusions (e.g., "they are emotionally abusing me"), hallucinations (e.g., hearing voices, seeing signs), and a flat affect. Since the patient was enrolled in university at the time of diagnosis, his cognitive function is assumed to be well preserved. The patient reported no change in symptoms for 2 years.

Schizophrenia is subdivided into five types: paranoid, disorganized, catatonic, undifferentiated, and residual (see Table 1).^{22,28} Based on these observations and on the literature, the patient's symptoms were suggestive

of paranoid schizophrenia,²² which is the most prevalent form of schizophrenia in most parts of the world.²²

The aetiology of schizophrenia remains unknown.^{29,30} There is a strong genetic predisposition.^{29,30} Patients who experience the onset of schizophrenia before age 22 are 10 times more likely to have a history of a complicated caesarean birth than patients with a later onset of schizophrenia, which suggests a possible neuro-developmental factor in early-onset schizophrenia.³¹ Mild childhood head injuries may play a role in the expression of schizophrenia in families with a strong genetic predisposition to this disorder.³² Psychological stress has also been implicated in the onset of schizophrenia, since it often precipitates the first psychotic episode or increases the likelihood of a relapse.^{33,34} In this case, the patient described a family "break-up" which may have precipitated the onset of psychosis. Details about his childhood head injuries and the circumstances of his birth were not obtained. After being diagnosed with schizophrenia, the patient revealed to the referring physician that his father had experienced something similar when he was younger, which may point to a genetic predisposition.

There are no conclusive diagnostic tests for schizophrenia.²² However, imaging studies have suggested neurophysiologic changes as an associated finding. Volumetric magnetic resonance imaging (MRI) studies of patients with schizophrenia have demonstrated an overall reduction in grey matter; an increase in white matter; decreased size of the amygdala, hippocampus, and parahippocampus; an overall reduction in brain volume; and larger lateral ventricles relative to a control group.^{35–37}

Table 1 Schizophrenia Subtypes⁶

<i>Subtype</i>	<i>Primary Symptoms</i>	<i>Features</i>
Paranoid	<ol style="list-style-type: none"> 1. Persecutory or grandiose delusions 2. Auditory hallucinations 3. Delusions and hallucinations organized around a central theme 	<ol style="list-style-type: none"> 1. Normal affect and cognition 2. Late onset 3. Best prognosis of the subtypes
Disorganized	<ol style="list-style-type: none"> 1. Disorganized speech 2. Disorganized behaviour 3. Flat affect 	<ol style="list-style-type: none"> 1. Disorganized hallucinations or delusions 2. Insidious onset 3. No remission
Catatonic	<ol style="list-style-type: none"> 1. Motor immobility 2. Purposeless and excessive motor activity 3. Inappropriate or bizarre postures maintained 4. Echolalia* 	<ol style="list-style-type: none"> 1. Risk of malnutrition, hyperpyrexia, or self-inflicted injuries 2. May pose threat to self and others 3. Mutism
Undifferentiated	<ol style="list-style-type: none"> 1. Symptoms meet the basic criteria for schizophrenia 	N/A
Residual	<ol style="list-style-type: none"> 1. At least one episode of schizophrenia 2. Presence of negative symptoms 3. Two or more attenuated positive symptoms 	<ol style="list-style-type: none"> 1. Can be transition between full-blown episode and complete remission 2. Can be present for years, with or without exacerbations

* Echolalia = senseless repetition of words spoken by another person

Psychiatric Disorders as They Relate to Musculoskeletal Dysfunction

As primary-care practitioners, physical therapists may encounter patients with possible psychiatric disorders such as schizophrenia. However, the physical therapy literature on psychiatric disorders as they relate to musculoskeletal disorders focuses mainly on low back pain (LBP).^{7,8} In an examination of a large number of physical and psychological factors, one prospective case-control study points to the importance of psychological variables as a risk factor for chronic LBP and widespread musculoskeletal pain.⁸ Previous research has also concurred with this study in implicating psychological variables as risk factors for LBP and neck pain.^{9,10} These articles provide a link between psychological disorders and patients seeking physical therapy for musculoskeletal dysfunctions.

In this case report, the physical examination was suggestive of a mild supraspinatus tendinosis, but this did not explain the severity of pain reported by the patient or the referral of pain to the elbow, wrist, and knee. One of the limitations of the physical examination was that there was not sufficient time to perform physical examination of the elbow, wrist, and knee. The patient's undiagnosed and uncontrolled psychiatric symptoms took priority over the musculoskeletal dysfunction and required immediate medical referral without physical therapy intervention. Because of the inconsistencies between interview and physical examination, as well as the patient's perception that an electrical implant was causing his musculoskeletal pain, there is a possibility that at least some of his musculoskeletal symptoms may have been manifestations of his psychiatric disorder.

Effective Patient Interviews

The medical literature indicates that 50% of all mental illness is recognized during the interview process as part of medical assessment by the primary-care physician.³⁸ As physical therapists embrace their role as providers of primary care,^{4,5} they must rely on their skills in patient interviewing and physical examination to rule out medical pathology. Improved assessment skills by the physical therapist may help to identify primary or secondary medical pathologies that have not previously been diagnosed. Within the peer-reviewed literature, a number of case studies demonstrate identification of non-musculoskeletal or visceral pathology that can manifest as musculoskeletal disorders;^{39–41} these case studies are examples of how physical therapists can perform an initial assessment, identify a medical pathology that precludes treatment, and make an appropriate referral. During a patient interview, physical therapists must be well aware of the psychological and psychosocial aspects

of the examination to identify relevant aspects of the patient's demeanor (e.g., appropriate self-care) and emotional state (e.g., inappropriate affect). The patient interview should consist of non-leading, open-ended questions about how pain in multiple areas is related and how it is caused. Furthermore, physical therapists should avoid rationalizing the patient's symptoms during the interview process. At a minimum, patients should be permitted to speak about and describe their symptoms in a way that is meaningful to them.

Schizophrenia and Primary Care

Schizophrenia is most often initially recognized by the primary-care physician.⁴² Psychiatrists, psychologists, and even the lay community have also been noted in the literature as making the initial identification.^{43–45} Although conspicuously absent from the literature on the initial identification of schizophrenia, physical therapists are in a position to be important first-contact care providers who can make the initial identification of schizophrenia, and other psychiatric disorders, through effective patient interviews. Although labelling patients as having a psychiatric disorder is outside physical therapists' scope of practice, the diagnostic process is not exclusive to any one profession. In this case, the process of diagnosis, which involves assessing the patient, grouping findings, interpreting the data, and identifying the patient's problems, led me to conclude that the primary dysfunction was psychiatric in nature.⁴⁶ This process, which Few et al. call "diagnostic reasoning," is well within physical therapists' scope of practice and is something we constantly engage in during our daily clinical practice.¹¹ Diagnostic reasoning involves taking into account all of the possible pathological structures and determining the most likely cause of the patient's symptoms. In practice, expert clinicians do not follow standardized protocols;⁴⁶ rather, they pay attention to cues provided by the patient, recognize patterns, and test hypotheses to arrive at a probable cause for the patient's symptoms.¹¹

IMPLICATIONS AND FUTURE DIRECTIONS

The medical literature has identified gaps in the knowledge of primary-care physicians, specifically a lack of awareness of the symptoms and epidemiology of schizophrenia.²⁸ To facilitate early recognition, referral, and diagnosis of schizophrenia, the medical literature has suggested increased collaboration among family physicians and mental-health professionals, as well as ongoing mental-health training for family physicians.^{47,48} Physical therapists should also heed these suggestions. A study in the physical therapy literature recommends mental-health training for recognizing the symptoms of depression in a population with LBP;⁷ the same study,

conducted in Australia, concluded that physical therapists' ability to recognize depressive symptoms in an outpatient setting was poor.⁷

An initial step to address these gaps could be a position paper that draws on the medical literature to inform physical therapists about the presence, prevalence, signs, and symptoms of common psychiatric disorders. As well, future research needs to focus on the incidence of musculoskeletal signs and symptoms in patients with common psychiatric disorders.

KEY MESSAGES

What Is Already Known on This Topic

To the authors' knowledge, there are no known studies in the literature describing a case of a patient referred to physical therapy for musculoskeletal dysfunction who was later diagnosed with schizophrenia.

What This Study Adds

This case report contributes to the existing literature on physical therapists functioning as competent providers of primary care who have the knowledge and skills needed to rule out non-musculoskeletal pathology. It also educates physical therapists about the signs and symptoms of schizophrenia.

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