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EDITORIAL COMMENT – OPEN ACCESS

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Confusing Terminology in COVID-19: Signs, Symptoms, and Physical Findings

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The terms "sign" and "symptom" are often used interchangeably in the medical literature, creating confusion or uncertainty regarding their significance. This dilemma is further apparent when the term "sign" is used when referring to "physical examination findings," as not all physical findings are signs, but signs are–by their very nature–findings observed during medical evaluation and assessment. Signs and symptoms should be distinguished so that the scope and subject matter of these sub-sciences of medicine are not used interchangeably.

In our review of the recent COVID-19 literature and reporting of various features and phenomenon, apart from a few papers discussing specific medical terminology (1), we noted that authors sometimes misappropriated the term "sign" when they were actually referring to physical findings. Because of this observation, we posed the question of what is a sign, symptom, and physical finding; whether signs and symptoms can be differentiated; and more importantly, how can a sign be distinguished from a physical finding.

The 2020 edition of the *Oxford Medical Dictionary* defines sign as "an indication of a particular disorder that is detected by a physician while examining a patient but is not apparent to the patient," while symptom as "an indication of a disease or disorder noticed by the patient himself" (2). As these definitions explain, symptoms represent complaints that are articulated by the patient, such as pain, which may or may not be due to the organic disease. Signs can be recognized by the patient and brought to the attention of the physician (e.g., de Musset's sign or head bobbing in patients with severe aortic insufficiency) or recognized by the physician himself and reported to other physicians (e.g., Trousseau's sign of thrombophlebitis). The possessive form is used in these cases since these persons had the disease they reported. Although symptoms are fewer in number than signs, it does not make their presence less important. Symptoms are subjective and may occasionally have an objective component (3). In the latter case, they should be referred to as objective symptoms or physical findings, and the latter term is preferred as it provides better clarity. Renaming "objective symptoms" as physical findings afford us the forum to now more clearly delineate and compartmentalize the terms symptoms and signs. Therefore, signs should be also distinguished from physical findings for better consistency and accuracy of medical terminology.

Sign is either a descriptive term or eponymously named. Sometimes a qualifier is added prior to the term "sign" (e.g., vital sign, prognostic sign, diagnostic sign, anamnestic sign, and pathognomonic sign) (3, 4). Occasionally, the qualifier "clinical" precedes the word sign when it applies to that which is found in medicine, although this is generally understood and redundant. Prognostic sign is not a sign since it only informs one of the relationships between a disease or finding and outcome. Vital signs are somewhat enigmatic, as the word "vital" means essential for life, while the five terms it refers to, namely, temperature, pulse, blood pressure, respiratory rate, and oxygen saturation, are objective measurements which when fall outside the limits of the "normal range" are physical findings and not signs (i.e., hyperthermia, hypothermia, tachycardia bradycardia, hypertension, hypotension, tachypnea apnea, and hypoxemia). Even though the term is a misnomer, it remains firmly embedded in the medical literature, and we will be unlikely calling them by an alternative name such as vital findings, functions, or measurements in the future.

Signs are elicited, provide inference, and tell the examiner something about the patient or underlying pathology and thus aid in diagnosis. Essentially, they tell the examiner about the likelihood of the diagnosis. Since they are objective, they can and should be confirmed by other examiners to verify their presence. Thus, by definition, the use of the qualifier "early" or "late" preceding the word sign are not "signs" because they only provide information about the temporal relationship between symptoms and physical findings and the onset of disease.

As aptly stated by Dr. Lester S. King (1908–2002), former Editor-in-Chief of the *Journal of the American Medical Association*, signs provide the examiner a "message that tells something about the patient or disease" (4), or better stated as the patient's illness or disease. Signs are found at the bedside, radiographically, or pathologically as part of the patient's assessment. When signs are used in combination with symptoms and physical findings, they provide the tool for diagnosing or increasing the probability of a diagnosis (5).

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Clinicians faced the problem of the unknown sensitivity and specificity of the majority of signs, creating gaps in our knowledge regarding their utility in clinical practice. In most cases, signs have not been thoroughly investigated; unfortunately, they are less likely to be studied as technological advancements supersede clinical assessment. Sorting out and sorting through the medical literature terminology is important so that its semiological value is well understood and easily communicated (6). Not all things that are physical findings are signs; thus, the term "sign" should be reserved and referred to as a tool applied through physical, radiologic, or pathologic examination using one or more of our senses of sight, hearing, touch, and movement to diagnose disease.

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