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Original Contributions

"MEDICALLY CLEARED": HOW WELL ARE PATIENTS WITH PSYCHIATRIC PRESENTATIONS EXAMINED BY EMERGENCY PHYSICIANS?

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☐ **Abstract—Significant numbers of patients present to Emergency Departments (ED) with psychiatric complaints, and alternative or concomitant medical diagnoses are commonly present. The literature reveals that physical examinations on these patients in the ED are often incomplete. The purpose of this study was to assess the completeness of examinations for "medical clearance" in our ED. We conducted a retrospective chart review of consecutive adult patients presenting to our ED over 1 year, using patients with a disposition diagnosis of "schizophrenia" as our subject group. The ED physician and nursing records were analyzed for 17 quantitative and qualitative variables, and these were stratified for age. Complete physical examinations were regularly lacking. Complete vital signs (VS) were documented in only 52% of cases, whereas no VS were recorded in 6% of patients. Older patients were more likely to receive full examinations, but this was not universal. Patients with psychiatric presentations should undergo a complete physical examination, including a full set of VS, before disposition from the ED. © 2008 Published by Elsevier Inc.**

☐ **Keywords—medical clearance; physical examination; emergency department; emergency physician; schizophrenia; psychiatric diagnosis**

INTRODUCTION

Performing the "medical clearance" of a patient in the Emergency Department (ED) before admission to a psychiatric facility is a common task for Emergency Physicians (EP). Up to 12% of ED patients present with psychiatric complaints or a prior psychiatric diagnosis (1). The literature indicates that complete examinations in the ED are often not documented (2–4).

To determine the completeness of medical examinations on patients with psychiatric illness, we undertook a retrospective audit of schizophrenic patients presenting to our hospital. Our results were then compared with the existing literature.

METHODS

A retrospective chart review was performed on consecutive adult patients presenting to our university-affiliated adult ED, located in a level-one tertiary care hospital in the center of a major Canadian city. We have two fully accredited emergency residency training programs and see approximately 45,000 patients per year. The study period was from January 1, 2002 to December 31, 2002. All patients with a disposition (admission, transfer, or discharge) diagnosis of schizophrenia were included. The EP and nursing records were used to obtain the required data.

The charts were analyzed by a single observer (MS). Records were excluded if not yet finished, or if the patient was seen in the ED by a physician other than an

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Table 1. Documented Physical Examination by Components

Item Examined	Total Patients (n = 202)	Proportion of Patients (%)
Complete set of 4 standard VS*	105	51.9
Partial set of VS†	85	42.1
Temperature	157	77.7
Heart rate	186	92.1
Respiratory rate	115	56.9
Blood pressure	185	91.0
Transcutaneous O_2 saturation	56	27.7
Blood glucose	11	5.4
Extra-ocular movements	23	11.4
Pupillary response to light	52	25.7
Cranial nerves, other	25	12.4
Neurological system, other	73	36.1
Head and neck	38	18.8
Respiratory system	108	53.5
Cardiovascular system	104	51.5
Abdomen	63	31.2
Integumentary system	24	11.9
General appearance	139	68.8
Behavior	153	75.7

* Complete set of 4 standard VS includes all of the following: temperature, respiratory and heart rates, and blood pressure.
† Partial set includes at least one of the standard 4 VS.
VS = vital signs.

attending or trainee EP. Individual charts were examined in reverse chronological order and the first ED visit meeting the inclusion criteria was selected, to allow for one encounter per patient in the data analysis.

Seventeen variables were analyzed. These were chosen as they are deemed commonly accepted components of a physical examination for any patient (5). Higher morbidity and mortality due to chronic respiratory illness and diabetes mellitus in the schizophrenic patients prompted the inclusion of SaO_2 and glucometry (6). Quantitative variables that could be recorded without ambiguity were: standard vital signs (VS), transcutaneous capillary oxygen saturation (SaO2) by oximetry, and rapid point-of-care glucose measurement (glucometry). Semi-quantitative items included examinations of eye movements and pupillary responses, the central neurological system (CNS) and other cranial nerves, the respiratory (RS) and cardiovascular systems (CVS), and the abdomen, skin, and head and neck. These were considered to have been done if the record contained an appropriately detailed examination or, depending upon the clinical presentation and the opinion of both study authors, any pertinent reference to that specific system. Comments about general appearance and behavior are more qualitative, but the inclusion of these was thought to be an important indicator of the overall inclusiveness of examinations.

Secondary analysis was performed with the data stratified for age. For this comparison, patients were placed into one of three age groups: 18 to 30 years; 30 to 50 years; and 51 years or older. Five groups of variables were analyzed: a complete set of standard VS; glucometry and SaO_2; a full examination of the CNS including cranial nerves; and combined CVS and RS examinations.

The findings were compared to the existing literature, which was searched using the PubMed engine to investigate the Medline databases. MeSH headings included "medical clearance," "emergency," and "mental disorder." Search limits were "English language," "human subjects," and "articles with abstracts."

RESULTS

A total of 202 adult patients with a disposition diagnosis of schizophrenia were assessed in our ED between January 1, 2002 and December 31, 2002. Seventy-two percent (n = 144) were male. The average age was 37.8 ± 12.1 years, with a range of 17 to 74 years. Eighty-one percent (n = 163) were assessed by an attending physician directly, whereas 19% (n = 37) were seen by a trainee with direct or indirect supervision by the attending EP.

The findings are illustrated in Table 1. A complete set of VS was documented in 52% (n = 105) of cases, whereas no VS were recorded in 12 (6%) patients. A partial set was noted in 42% (n = 85), with the respiratory rate being the most commonly omitted sign. SaO_2 and glucometry were documented in 27.7% (n = 56) and 5.4% (n = 11) of the time, respectively.

Sub-group analyses were carried out on the data stratified by age categories (Table 2). The youngest patients were least likely to have each one of these variables documented. Of note, however, the oldest age group was less likely to have a complete assessment compared to the middle age group, in four out of five variables.

Not illustrated is that a patient assessed by a trainee EP was more likely to have a complete examination, whereas one seen by an attending EP was more likely to

Table 2. Physical Examination by Age Group

Age Categories	18–30 years (n = 112)	30–50 years (n = 59)	> 50 years (n = 31)
Full VS	32 (28.5%)	50 (84.5%)	13 (41.9%)
Glucometry	1 (0.1%)	8 (13.6%)	2 (6.5%)
SaO_2	15 (13.4%)	26 (44.1%)	14 (45.2%)
Complete CNS examination	4 (3.6%)	14 (23.7%)	7 (11.8%)
CVS and RS examination	27 (24.1%)	54 (91.5%)	20 (64.5%)

VS = vital signs; CNS = central neurological system; CVS = cardiovascular system; RS = respiratory system.

have observations of the appearance and behavior noted, but less likely to receive a full examination.

DISCUSSION

It is important to perform a complete medical assessment on psychiatric patients presenting to the ED. It has been shown to be a necessary component of a comprehensive evaluation of psychiatric patients (7–10). After the medical history, a physical examination is a fundamental, non-invasive, and inexpensive intervention. Due to their illness, psychiatric patients may not be able or willing to provide an adequate medical history, which underscores the importance of an appropriately detailed examination.

The literature shows that up to 63% of patients with symptoms classically associated with psychiatric illness have primary or co-morbid medical disease (7–10). One study found that 24% of patients admitted to a neuropsychiatric unit had their initial diagnosis later changed from a psychiatric to a medical one, or vice versa (11). Some authors suggest that between 44% and 83% of patients erroneously admitted to a psychiatric facility could have been better identified and redirected by an appropriate physical assessment (4,12). Eight percent of the misdiagnoses had unaddressed abnormal VS (12).

Several studies reveal that physical examinations performed on patients with psychiatric complaints are often documented incompletely (3,4,11). Our results show that this continues to be true (Table 1), at least in our study setting.

There are some possible reasons for neglecting complete physical examinations on this particular population (9,11). Psychotic patients can be uncooperative, hostile, and sometimes even violent. However, this fact would usually be documented on the ED record and the examination deferred. Diagnostic assumptions are often made, especially by more experienced clinicians. For example, patients seen directly by the attending EPs were more likely to have general observations noted, less likely to have complete examinations documented, and more likely to have consultations initiated. Although the "gestalt" impression of a patient is an important adjunct to a complete evaluation, it should be accompanied by a detailed medical assessment. Familiarity with patients who frequent the ED may also breed a false sense of diagnostic security. Even if the reason for admission is exclusively psychiatric, self-neglect during the acute phase of the illness may create additional non-psychiatric complications such as dehydration, malnutrition, or infection.

In a recent survey, one-half of EPs believed that routine laboratory testing should be performed on psychiatric patients presenting to the ED, but this practice is not supported by the literature (13). A complete medical history and physical examination, with full VS, is usually sufficient to exclude a medical reason for the presentation (14,15). Findings consistent with an organic etiology of a psychiatric presentation include: new symptoms after age 40 years, sudden onset of symptoms, toxidrome, visual hallucinations, disorientation, altered level of consciousness, new medication, and abnormal VS (16).

In some medical systems, the ED examination is the only medical assessment these patients may receive during their entire hospitalization: once admitted to a psychiatric unit they are unlikely to undergo another physical examination. Several articles indicate that only 13–35% of psychiatrists routinely perform "physicals" on their newly admitted outpatients (3,17,18). Thirty-two percent of psychiatrists feel unqualified to do "medical" examinations (17).

Given the above-noted attributes of the physical examination, it should be consistently applied to psychiatric patients presenting to the ED (4). We believe that a complete history and physical examination should be performed on all psychiatric patients presenting to the ED, except in circumstances where it would be unsafe to do so, in which case it should be deferred until the clinical situation has been controlled. In our analysis, a complete set of VS was documented only slightly more than half the time, yet these are an important marker for organic disease. We believe that full VS, including SaO_2 and glucometry, should be recorded by protocol for all patients with psychiatric presentations. Other aspects of the physical examination will remain at the EP's discretion.

Age seems to be a factor in how often EPs document a full examination on patients (Table 2). Older patients were more likely to have complete examinations documented, including a full set of VS. This seems logical, as one might anticipate more medical problems with increasing age, but one study demonstrated that patients under age 55 years had a fourfold greater chance of having a missed medical diagnosis (4). In our population, stratifying results for age above and below 50 years yielded conflicting results, and we do not have a satisfactory explanation for this finding.

Limitations

Limitations of our methodology are several. This was a retrospective chart review with all of the attendant limitations. This was not a multi-center study, which raises the possibility of institutional bias. This study looks at the adequacy of physical examination using the only available surrogate measure—documentation in the medical record. Our study design does not allow for differentiation between lack of documentation and lack of evaluation. However, if history or examination parameters are not documented in the chart, it is then unclear if they were performed or not. Simi-

larly, we did not assess the completeness of chart documentation for a comparison sample of non-psychiatric patients seen in our ED during the study period. The final limitation is that our study was not designed to follow patients after disposition from the ED to document adverse outcomes and establish a link between incomplete chart documentation and whether this actually resulted in adverse clinical outcomes. As our literature review suggests, there are some data showing that inadequately examined psychiatric patients have adverse outcomes and it is possible that our cohort is similar, however, we did not assess for this. This could be further evaluated by a prospective, randomized, multi-center study, which is sufficiently powered to detect a difference in outcomes between routine complete examinations and targeted examination at the discretion of the examining physician.

CONCLUSION

Patients with psychiatric presentations should undergo a complete physical examination, including a full set of VS, before disposition from the ED. A complete examination is often all that is necessary in excluding alternate or concomitant medical diagnoses; however, our study demonstrates that in our institution this is not documented for every psychiatric patient, even after arrival at the psychiatric unit or facility.

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