

Prevalence of delirium among medical inpatients in Teaching Hospital in Baghdad.

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Abstract

Background: Delirium is a syndrome characterized by the rapid onset of variable and fluctuating changes in attention resulting in disturbed behavior, illusions, hallucinations & changing level of consciousness caused by physiological consequences of a medical disorder, its prevalence is estimated to be about 15-20% of general medical wards.

Objectives: The aim of this study is to measure the prevalence of delirium in patients admitted to medical wards and to study signs and symptoms of delirium.

Methods: A cross sectional study of all patients who were admitted to the medical wards of Al Kadhymia General Teaching Hospital in Baghdad during the study period which is from 21 March 2008 to 21 April 2008, the total admissions were 510 patients, with excluding criteria: a pre-existing

psychiatric disorder and age less than 18 year.

- Approval to the questionnaire was taken from the relatives.

- All patients with delirium were referred by residents during the study period

- Delirium cases were diagnosed according to DSM IV criteria; prevalence was estimated and symptoms studied

Results: The prevalence of delirium was about 3% among the medical inpatients.

Conclusion: The prevalence of delirium reported in this study is low in comparison to other studies. This is explained in terms of difference of methodology used in this study in comparison with other studies.

Key words: delirium, inpatients, medicine

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Introduction

Delirium is a syndrome characterized by the rapid onset of variable and fluctuating changes in mental status caused by physiologic consequences of a medical disturbance⁽¹⁾. According to the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). "The essential feature of a delirium is a disturbance in consciousness that is accompanied by a change in cognition that cannot be better accounted for by a pre-existing, established or evolving dementia⁽²⁾."

It's an acute and relatively sudden (developing over hours to days) decline in attention-focus, perception, and cognition. In medical usage it is not synonymous with drowsiness, and may occur without it.

It is commonly associated with a disturbance of consciousness (e.g., reduced clarity of awareness of the environment), change in cognition (memory deficit, disorientation, language disturbance) or the development of a perceptual disturbance. Usually the rapidly fluctuating time course of delirium is used to help in the latter distinction⁽³⁾.

Typically, delirium develops over a course of hours to days, and changes in mental status wax and wane over a short period of time. Because delirium is the direct result of an underlying medical condition, it typically improves fairly quickly when the causative factor is identified and corrected. The diagnosis of delirium is challenging because it has variable presentations that include disturbance in one or more of the following domains: orientation, thought process, perception, memory, mood, and behavior with or without hyperactivity⁽⁴⁾. Delirium has been known by a

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variety of names, including acute confusional state, acute brain syndrome, metabolic encephalopathy, toxic psychosis⁽⁴⁾.

Because it represents a change in cognitive function, diagnosis cannot be made without knowledge of the affected person's baseline level of cognitive function⁽⁶⁾. Without careful assessment, delirium can easily be confused with a number of psychiatric disorders because many of the signs and symptoms of delirium occur in conditions such as dementia,

depression, and psychosis⁽⁷⁾.

Delirium itself is not a disease, but rather a clinical syndrome (a set of symptoms), which result from an underlying disease or new problem with mentation. Like its components (inability to focus attention and various impairments in awareness and temporal and spatial orientation), delirium is simply the common symptomatic manifestation of early brain or mental dysfunction (for any reason)⁽⁸⁾.

Table 1: Potential Causes of Delirium⁽⁹⁾.

1- <u>drugs</u> : intoxication/withdrawal
2- <u>Infections</u> :
○ Systemic infections.
○ CNS infections: Meningitis, encephalitis.
3- <u>Post operative</u> :
4- <u>Metabolic & Endocrine</u>
○ Hepatic encephalopathy.
○ Thyroid
○ Parathyroid
○ Pancreatic
5- <u>CNS Causes</u> :
○ CNS:
○ TIA
○ Brain trauma
○ Seizures and postictal states
○ Neoplasm
● Steroids

Methods

Cross sectional observational study of all patients admitted to the medical department of Al Kadhimyia General Teaching Hospital during the study period from 21 March 2008 to 21 April 2008.

All patients diagnosed as complaining of delirium who were referred by doctors were studied by specific interviewing procedure according to DSM IV criteria of delirium together with special form for

collecting the demographic criteria of patients and the symptoms of delirium.

Exclusion Criteria

- Presence of their psychiatric disorders.

- Age group less than 18 years.

Simple statistical analysis for results was performed.

Results

The prevalence of delirium was 2.95 %. The total no. of inpatients during study period was 510. The total

no. of delirium cases was 15. Among delirious patients 8 (53.3%) were females and 7 (46.7) were males. 12(80%) of patients were married and

3(20%) were single. The average age of patients was 58 years (SD 4.8) as in table 2.

Table 2: Distribution of delirium cases according to age groups

Age groups	Frequency	Percent
Valid 20-29	1	6.7
40-49	2	13.3
50-59	4	26.7
60-69	3	20.0
70-79	4	26.7
80-89	1	6.7
Total	15	100.0

Regarding the presenting symptoms; all the patients had confusion, 53.3% had labile mood, 53.3% had hallucinations, 40% had agitation, and 60% had gross retardation. all the patients had disturbed attention and concentration and 86.7% had memory disturbance (Tables 3-8).

The distribution of causes of delirium in this study is shown in table- 9. Intracranial hemorrhage (ICH) was the most common cause followed by diabetic ketoacidosis (DKA) and pyrexia of unknown origin (PUO) and then renal failure (RF).

Table 3: Frequency of labile mood among delirium patients.

	Frequency	Percent
Valid Yes	8	53.3
No	7	46.7
Total	15	100.0

Table 4: Frequency of hallucination among delirium patients.

	Frequency	Percent
Valid Yes	8	53.3
No	7	46.7
Total	15	100.0

Table 5: Frequency of agitation among delirium patients.

	Frequency	Percent
Valid Yes	6	40.0
No	9	60.0
Total	15	100.0

Table 6: Frequency of gross retardation in mental and physical activity among delirium patients.

	Frequency	Percent
Valid Yes	9	60.0
No	6	40.0
Total	15	100.0

Table 7: Frequency of disturbance in attention and concentration among delirium patients.

	Frequency	Percent
Valid Yes	15	100.0

Table 8: Frequency of disturbance of memory among delirium patients.

	Frequency	Percent
Valid Yes	13	86.7
No	2	13.3
Total	15	100.0

Table 9: Frequency of causes of delirium patients

	Frequency	Percent
Valid ICH	5	33.3.
DKA	2	13.3.
PUO	3	20.0
RF	2	13.3
Hypoglycemia	1	6.7
Tumor	1	6.7
Drug over dose	1	6.7
Total	15	100.0

Discussion

this study showed that the prevalence of delirium among the total admissions of 510 patients to medical wards in our hospital during study period is about 3% and it is found that the rate is very low in comparison to prevalence reported in studies by Plaschkek, Hill H. & Engelhar; ⁽¹⁰⁾ which is about 28.9% , by Johanna C. Korevaar & Barbara C Van Munster ⁽¹¹⁾ which is about 29%, Wakefield B & Johanson J.A.⁽¹²⁾ which is about 69.6% among their sample group of terminally ill patients, and Kanaayiram

Alagiakrishnan⁽¹³⁾ which is about 10-22% .

the possible explanation of that may be related to the method used in this study, cases reported in this study are those which are referred by residents or staff members. It is possible that residents or staff consider a case to be that of delirium only when there is emergency situation, gross retardation or agitation among patients while cases with mild cognitive impairment caused by delirium are not recognized as such. This means that it

is possible that only agitated, or severely retarded or grossly disturbed patients were included in this study. This need further confirmation by further studying and revising diagnostic criteria set by residents about delirium. Of course better recognition of such cases is important as missed cases may be left without treatment and prognosis may be worse as delirium has very variable clinical presentation and not necessarily presented with agitation or retardation, the support for this explanation is the high level of agitation and retardation reported in the cases of this study.

Regarding the methodology of this study; ideally there should be daily screening of all patients in the ward with specific psychometric tests for diagnosis of delirium. In this way all cases of delirium even with minimal cognitive functions without behavioral disturbance can be recorded. This was not possible with limitation in the time of the study and availability of the relevant clinical tests.

The mean age of delirious patients in our sample was 58 years and 53.4% of them were above 60 years. The mean age was reported to be 73.5-83.7 by Wakefield B. & Johanson J.A. ⁽¹²⁾, Johanna C. Korevaar & Barbara c Van Munster ⁽¹¹⁾, and Plaschkek, Hill H. & Engelhard's ⁽¹⁰⁾. The explanation for lower age average as reported in this study is that life expectancy is now increasingly higher in western countries than developing countries and this will yield more cases with old age that are vulnerable to delirium as noticed in the studies above.

In our study, 46.7% of the subjects (patients) who were diagnosed as delirium are women and the rest 53.3% are men. In comparison with Wakefield B. & Johanson J.A. ⁽¹²⁾ who reported that women represents 31.2% and men 68.8%, while Johanna C.

Korevaar & Barbara c Van Munster ⁽²⁰⁾ reported that 45% of patients were women. Regarding the marital status of the patients, 80% of them were married. As was noticed most patients in this study are above middle age and most Iraqi people are married by this age .

Confusion and disturbance of attention and concentration reported in all cases in this study. 53.3% of the patients had either visual or auditory Hallucination, while it was reported in 43% of patients in Kanaayiram Alagiakrishran ⁽¹³⁾.

Agitation manifestation appeared in 40% of the present sample and 58.5% among patients of Wakefield B & Johanson J.A. study ⁽²¹⁾ and 22% in Kanaayiram Alagiakrishran study ⁽¹³⁾. Gross retardation in mental and physical activity reported in 60% of our patients while it was 35.6% in patients included by Wakefiled B & Johanson J.A study ⁽¹²⁾, and 26% only by Kanaayiram ⁽¹³⁾.

According to Kanaayiram`s study ⁽¹³⁾, (labile mood) was present in 70% of his sample while in the present study it was only 53.3%. The difference between the above variables in this study and the studies mentioned above may also be related again to the same concepts discussed above in relation to case detection in this study i.e. only grossly disturbed, agitated or retarded or confused patients are referred and such patients usually have full blown picture of the syndrome. This means that the above results are related to the low reported prevalence because this prevalence may not reflect the true possible No. of cases of delirium that actually occurred during study period because of the factors mentioned above. In other words this recorded no. may not reflect the actual no. of cases which if identified may give similar results to other studies regarding these variables, similarly regarding the

underlying causes delirium in our patients, the results detected may not reflect the true possible frequency of pathologies that may lead to delirium and this may be related to the low reported prevalence of delirium in this study. While delirium appears to be a common presentation in patients, especially in old age group, it's necessary to do more researches on this subject, with giving attention to longer study time, larger sample to be studied with varying demographic background and improved facilities for case detection including instruments for detecting mild cases

It can be concluded that Prevalence of delirium is reported to be low in comparison with other studies. This was explained by methods used in this study as only emergency cases with full blown picture of delirium might have been included in this study. This supposed fact was thought to be the cause for other differences with other studies such as type of symptoms and signs and causes reported in this study.

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