# Psychiatric Co-morbidity In 'Headache' ?



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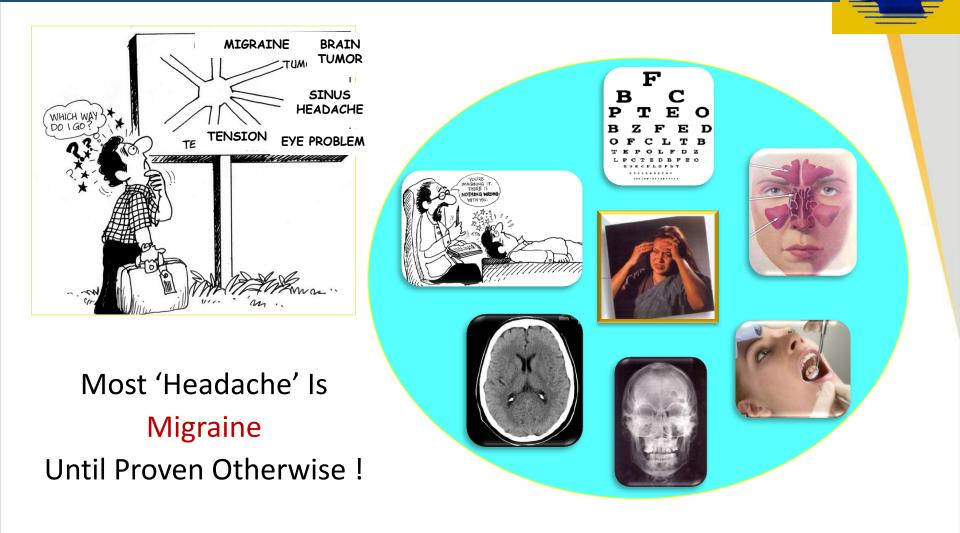
#### Audience Feedback In Your Practice ?

- How common are headaches ? Yes / No
- Commonest Diagnosis ? Depression / Else ?
- Easy to manage Yes / No ?
- Headache is Comorbid or Caused by Yes / No ?
- Investigations required Often / Rarely ?
- Treatment ? Antidepressants / Others ?
- Need for Referral ? Yes / No ?
- Outcome Good / Poor ?





#### What Happens In Practice ?

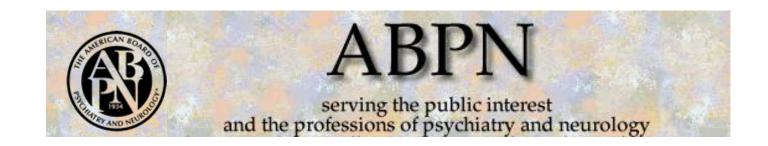




- Just relax, you worry too much !
- □ It is All in your Mind ! You are too stressed out !
- Your headaches are due to your depression
- Learn to be happy and All will be well !
- Take care of your Tension, and I will take care....
- They are the cause of their own suffering ?



HA + Psychiatric Comorbidity and The Implications ?
How much 'About Headache' for the Psychiatrist ?
How much 'Psychiatry' for the Headache Specialist ?
Is it Time to Reintegrate Neurology and Psychiatry ?



The integration of neurology, psychiatry, and neuroscience in the 21<sup>st</sup> century. Martin JB1.

Am J Psychiatry. 2002 May;159(5):695-704.



- 2 diseases co-occur more frequently THAN as a random coincidental association in the general population
- Potential for the diseases to influence one another
- 3 REASONS why 'Comorbidity in Headache' is important?
  - Migraine high prevalence + high comorbidity
  - Comorbidity sheds light on ETIO-PATHOGENESIS
  - Impact on course, severity, treatment, prognosis of Migraine



- Psychiatrists should diagnose 'headache' (Migraine) and recognize the Comorbidity
- Psychiatrists should know Migraine Prophylaxis
- Neuros should know about psychological screening
- Neuros should know treatment of Anxiety + Depression
- Both should know when to cross refer, when NOT to ?
- Therapeutic Opportunities and Limitations.
- Multidisciplinary Management Integral to HA Clinic



- ICHD3 beta (2013) like DSM IV and DSM V (2013)
- Primary, Secondary, Cranial Neuropathies, Appendix
- Headache 'Red Flags' When to investigate ?
- Basic Neurologic Examination Fundoscopy
- Migraine, Tension Type HA, CDH, MOH, NDPH
- Basic Prophylaxis + When to Refer ?



#### **'About Headache'** ICHD3 – Beta (2013)

- Primary (Grp. 1-4)
  - > Migraine, TTH, TACs (Cluster HA), Other Primary HAs
- Secondary (Grp. 5- 12)
  - Headache attributed to Psychiatric Disorder
- Cranial Neuralgias, Other Headaches (Grp.13-14)
- Appendix



#### What Will You See In Your Practice ?

- Migraine + Comorbidity Chronic Migraine
- Tension Type Headache + Comorbidity
- Psychogenic headache In Children
- Chronic Daily Headache (CDH)
- Medication Overuse Headache (MOH)
- NDPH (New Daily Persistent Headache), NH
- Refractory Migraine + Comorbidity
- Headache Attributed To Psychiatric Disorder





#### Migraine Without Aura ICHD-3 criteria

- A. At least five attacks<sup>1</sup> fulfilling criteria B–D
- B. Headache attacks lasting 4-72 hours (untreated or unsuccessfully treated)<sup>2,3</sup>
- C. Headache has at least two of the following four characteristics:
  - 1. unilateral location
  - 2. pulsating quality
  - 3. moderate or severe pain intensity
  - aggravation by or causing avoidance of routine physical activity (e.g. walking or climbing stairs)
- D. During headache at least one of the following:
  - 1. nausea and/or vomiting
  - 2. photophobia and phonophobia
- E. Not better accounted for by another ICHD-3 diagnosis.





- No one typical presentation, heterogenous
- Recurrent headaches + other accompaniments
- □ N,V, PHT, PHN + Provoked by int + ext. triggers
- Features beyond the ICHD criteria
- Spectrum of migraine
- Mild migraine can look like TTH
- 10-15% migraine with aura; other forms +
- Advances in pathophysiology



#### Case Scenario 1 F/24

- Migraine without aura since adolescence,
- Illness incapacitating x 6 months
- Excess painkillers, Medication Overuse Headache
- Anxiety + complaints of stress, cannot concentrate
- Sleep problems + h/o mild depressive episodes
- Was treated with amitryptiline, agitation+ weight gain
- F/H of depression (mother), alcoholism (grandfather)
- Migraine + MOH + depression + ? hypomanic episodes + anxiety



#### Migraine + Psychiatric Comorbidity - 1

- Major Depression
- Bipolar I manic episodes
- Bipolar II hypomanic episodes
- Gen. Anxiety Disorder, Panic Disorder, OCD
- Substance Dependence
- Borderline Personality disorder
- Psychosis





#### Migraine + Psychiatric Comorbidity - 2



Diagnosis	Migraine Group (%)	Control Group (%)	Odds Ratio
Major Depression	34	10	4.5
Dysthymia	9	2	4.4
Bipolar lia	4	1	5.1
Manic Episode	5	1	5.4
Panic Disorder	11	2	6.6
Generalized Anxiety Disorder (GAD)	10	2	5.7
Obsessive-Compulsive Disorder (OCD)	9	2	5.1
Phobia	40	21	2.6

Breslau et al. Neurology 1994:517-22



- □ May be causally related : M D + vice-versa
- Common genetic or environmental pathophysiology
- Shared mechanism hypotheses
- Bidirectional relationship
- One increases the risk of the other
- Same disorder Different phenotype expressions



- Depression and anxiety > with CM than EM.
- Comorbid psychiatry = Disability and QOL.
- Depression and anxiety = more severe headaches.
- Comorbidity = poor long-term prognosis.
- Iower satisfaction with acute drug treatment
- Comorbidity = long-term relapse + > chronification



### Migraine + Psychiatric Comorbidity Therapeutic Implications

- High Disability, Poor QOL, Poor prognosis
- Risk factor for Chronification
- Therapeutic Opportunities + Limitations
- Avoid those that induce fatigue or depression. No BBs
- TCDs Use secondary amines Nortriptyline
- Anti-epileptic drugs Valproate, TPM
- SSRIsno effect in migraine, Serotonin Syndrome
- BFT, RT, CBT

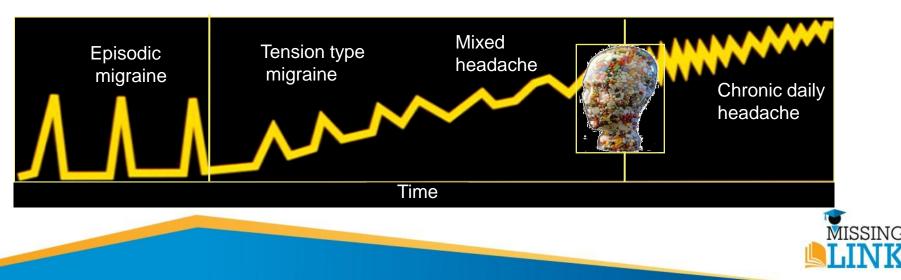


#### Case Scenario 2 Mrs. P A, F/64

- Headache x 57yrs, since age of 7
- Wakes up with a headache
- □ ↑ Starts from one side
- If severe then vomiting +,  $\uparrow$  ESL, noise



- 2 PROXYVONS, SARIDON, MIGRANIL, CAFERGOT
- "Have been to all possible doctors" O/E- CNS-N`, MR- N



#### What is MOH In Practice ?

- When A Primary Headache Episodic Migraine
- □ Becomes Chronic HA > 15 days per Month
- Due to Overuse Of Acute Abortive Agents
- In a Susceptible Individual ? Genetic



Cause OR Consequence ?

#### Primary HA + Overdosage + Ineffective prophylaxis = MOH



#### MOH Role of Psychiatrist



Medication overuse headache in India.

Ravishankar K. Cephalalgia. 2008 Nov;28(11):1223-6.

# Does medication overuse headache represent a behavior of dependence?

Fuh JL1, Wang SJ, Lu SR, Juang KD. Pain. 2005 Dec 15;119(1-3):49-55. Epub 2005 Nov 17.

Psychiatric comorbidity in the evolution from migraine to medication overuse headache. Radat F1, Creac'h C, Swendsen JD, Lafittau M, Irachabal S, Dousset V, Henry P. Cephalalgia. 2005 Jul;25(7):519-22.



# GR, M/50













#### Case scenario 3 GR, M/50

- Headache x 30 yrs
- Pain R+ L temple region
- Daily morning on awakening
- □ V+, PHT+, PHN +
- Trigger links +. FH +ve
   (mother, brother, sister)
- Daily painkillers + opioid injections
- Prophylactics Nothing works







#### Case Scenario 4 MT, M/32

- Head 'heaviness x 2 yrs., Into martial arts
- 24 x 7, okay when asleep at night
- 3-4/10, nonthrobbing, no accompaniments
- Consulted ENT, Ophthal
- FH negative, MRI normal,
- Refuses to consult a Psychologist/Psychiatrist

VIP syndrome



- Misnomer Muscle tension or Psychic Tension
- Ill defined heterogenous syndrome
- Recurrent episodes, featureless mild to moderate
- Nonspecific phenotype, infrequent, freq., chronic
- Defined by what it is NOT than what it IS !
- No associated features. NOT both PHT and PHN



#### Case Scenario 5 Children with Headache









#### Case Scenario 6









#### Case Scenario 7 NB, M/40

- Mild, intermittent, nondisabling headaches x 3yrs
- Started 2 weeks after death of newborn
- Constant, generalised, no accompaniments
- Examination, MRI normal
- Treament with headache prophylactics no use
- Overdose of painkillers
- Psychological consult major depression
- BDI score 30. Improved with Venlafaxine



### Headache + Psychiatric Disorder ICHD-3 Beta





# 12. Headache attributed to psychiatric disorder

12.1 Headache attributed to somatization disorder

12.2 Headache attributed to psychotic disorder

A12.	Headache attributed to psychiatric disorder
A12.3	Headache attributed to depressive disorder
A12.4	Headache attributed to separation anxiety disorder
A12.5	Headache attributed to panic disorder
A12.6	Headache attributed to specific phobia
A12.7	Headache attributed to social anxiety disorder (social phobia)
A12.8	Headache attributed to generalized anxiety disorder
A12.9	Headache attributed to post-traumatic stress disorder
A12.10	Headache attributed to acute stress disorder



#### Headache Due to Psychiatric Disorder

- Secondary Headache New in ICHD2-2004
- Headache during course of psychiatric disease
- Somatisation Disorder + Psychotic Disorder
- other categories in the Appendix
- Psychiatric disease comorbid > causal (rare)
- Psychogenic Headache
- Make the diagnosis. Don't wait

Not RARE but RARELY diagnosed





#### Case Scenario 8 RA, M/22 -1

- Headache x 3 months
- □ 24x7, frontal  $\rightarrow$  generalized
- □ Intensity 6 to 8/10
- Sudden onset. No past history

What do you want to know HERE?

Started on 20th April 2013
Family history positive (mother)
No vomits, no PHT, no PHN
No trigger links









#### RA, M/25 - 2

- More than 10 doctors so far,
- 5 Neuros
- All tests, CT, MRI normal
- CSF Normal, Lab normal
- No better
- Doctors tell me I have TTH
- But I do not have Tension !

Final Diagnosis ?



#### NDPH – New Daily Persistent Headache





#### 4.10 NDPH In ICHD3 Beta ?

#### Description:

Persistent headache, daily from its onset, which is clearly remembered. The pain lacks characteristic features, and may be migraine-like or tension-type-like, or have elements of both.

Diagnostic criteria:

- A. Persistent headache fulfilling criteria B and C
- B. Distinct and clearly remembered onset, with pain becoming continuous and unremitting within 24 hours
- C. Present for >3 months
- D. Not better accounted for by another ICHD-3 diagnosis.

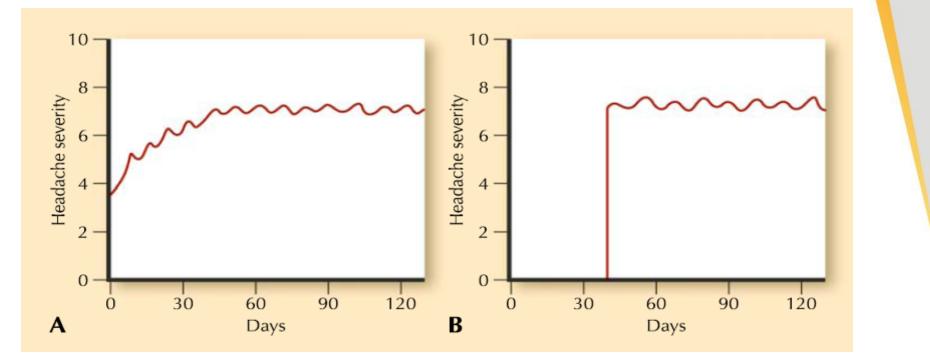


The International Classification of Headache Disorders, 3rd edition (beta version). 2013





#### NDPH Initiation Pattern



#### Chronic Migraine or Chronic Tension - Type

NDPH

Baron & Rothner Curr Neurol Neurosci Rep 2010;10:127



#### Case Scenario 9 SC, F/28

- Left forehead pressing pain X 6 months
- Same place always, single spot pain,
- Pain + through the day, no h/o trauma
- □ ↑ with touch, massage hurts
- No nausea, vomiting, no PHT, no PHN
- No autonomic accompaniments
- Clinical examination Normal, MRI N







## 4.8 Nummular Headache

 Continuous or intermittent mild to moderate head pain fulfilling criterion B

- Felt exclusively in an area of the scalp, with all of the following four characteristics:
  - Sharply contoured
  - Fixed in size and shape
  - Round or elliptical
  - 1–6 cm in diameter

# Cuff-filter

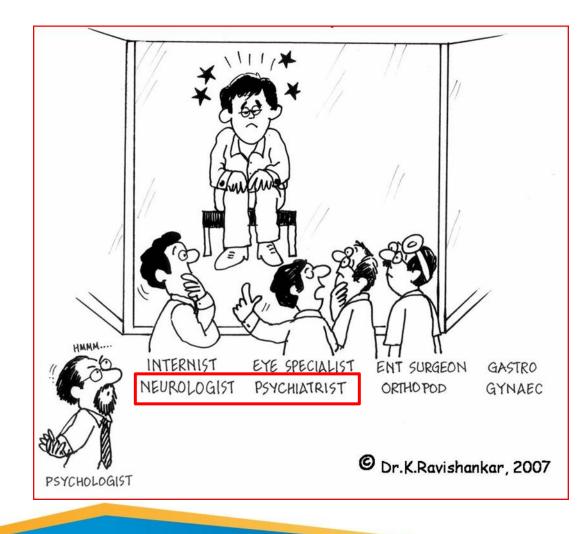
#### Not better accounted for by another ICHD-III diagnosis.

The International Classification of Headache Disorders, 3rd edition (beta version). Cephalalgia. 2013;33:629-808.





### The Ideal Scenario Multidisciplinary Management







### How Much Psychiatry Should Neurologists Know ?

- Comorbidity. Psychiatric Screening.
- Becks Depression + Anxiety Inventories
- Mood, Anxiety, Somatoform disorders
- TCAs, SSRIs, SNRIs, Side Effects, Interactions
- Serotonin syndrome, Mania
- Nonpharmac options RT, BFT, CBT
- Early Referral to Psychologist / Psychiatrist
- Not to Blame it on the Patient !





- Beck's Depression Inventory (BDI –II), PHQ 9
- Beck Anxiety Inventory, GAD-7
- Hamilton Depression and Anxiety Scales
- PRIME-MD
- MMPI





### Rationale for Psychiatric Screening in Headache Patients

- Comorbidity can impact headache prognosis.
- Comorbidity differential response to prophylaxis
- Comorbidity can influence adherence to treatment
- Antidepressants can trigger mania with bipolar disorder.
- Tendency toward overuse or drug-seeking behavior.
- Screening useful in ruling out suspected psychiatric basis for somatic complaints.



### When To Refer To The Psychiatrist ?

- When comorbid
- Headache due to Psychiatric disorder
- 24 x 7 from day 1
- Somatoform disorders
- When treatment refractory
- When there is ONE underlying cause ?
- As part of multidisciplinary team





### Pharmacologic Options ?

- Antidepressants
  - > Tricyclics, SSRIs, SNRIs, MAOIs, Other Antideps
- Mood Stabilisers
- Anxiolytics
- Benzodaisepines, Nonbenzodaiazepines
- Antipsychotics
  - First and Second Generation
- Stimulants and Nonstimulants

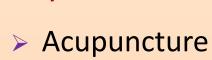




## Nonpharmacologic

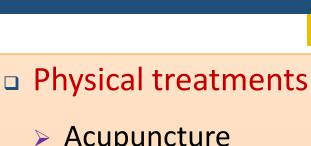
#### Behavioural treatments

- Relaxation training\*
- > Hypnotherapy
- Thermal biofeedback training\*
- > Electromyographic biofeedback therapy\*
- Cognitive / behavioural management therapy\*



- Transcutaneous electrical nerve stimulation (TENS)
- > Occlusal adjustment
- Cervical manipulation







### Case Scenario 10 F/45

- No past/previous psychiatric/neurologic history
- Acute HA x 3 days, MRI + Lab Normal
- Next few days change in behaviour, prayers
- Increasingly paranoid, hears voices
- GTC seizure, MRI repeat normal, Visual hallucinations
- Recurrent seizures delirium autonomic instability
- CSF Neuronal auto-antibodies, + ve for NMDA
- IV IgG diagnosed as Limbic encephalitis
- Recovery fully No residual symptoms



- Limbic encephalitis NMDA or AMPA receptors
- Systemic disease SLE, Neurosarcoid, GCA, Behcets
- Endocrine disorders Thyroid disease
- Auto immune disease Limbic Encephalitis
- Mitochondrial disease MELAS
- Neuro-degenerative Wilsons
- Substance induced + Medication induced
- Miscellaneous TBI, MS, MELAS, OP Poisoning, infectious disease



#### Work up

- Neuropsychological testing
- Laboratory testing working diagnosis.
- CBC, ESR, CRP, Electrolytes, TFTs, LFT, B12, HIV, ANA, Anti-Ds DNA, Anti Sm, Anti RO, Anti La
- Lupus anticoagulant, ACE levels, Ceruloplasmin, CSF, neuronal auto-antibodies
- Imaging MRI, PET, PET-CT
- EEG
- TAB, Genetic Testing



#### Treatment

- Anti-Psychotics
- Lithium, Divalproic acid
- Neuroleptics
- Specific for aetiology
- Eg: Limbic encephalitis IgG, Rituximab





#### In Conclusion

- "Not Tonight Darling, I have A Bad Headache !"
- 'Stress' in the right context
- Stress is a trigger for Migraine, Not a diagnosis
- It is not All in the Mind !
- It is All in The Biology and Genes
- Multidisciplinary Management is IDEAL



### NeuroPsychiatry Way To Go – Future ?



Much More Than "Not Tonight Darling, I Have A Bad Headache......!"

Neurologist	Neurologist	Devebiatrict
	+ Psychiatrist	Psychiatrist

MIND-less Neurology Or BRAIN-less Psychiatry Both Inadequate







#### Status Migrainosus + Visual + Non-Visual Aura (? Dysphrenic, ? TGA)

On Discharge, 2 weeks later..... TPM, BB, Lamotri.

- Pain reduced,
- Visual deficit +
- Behavior problems + Memory problems+







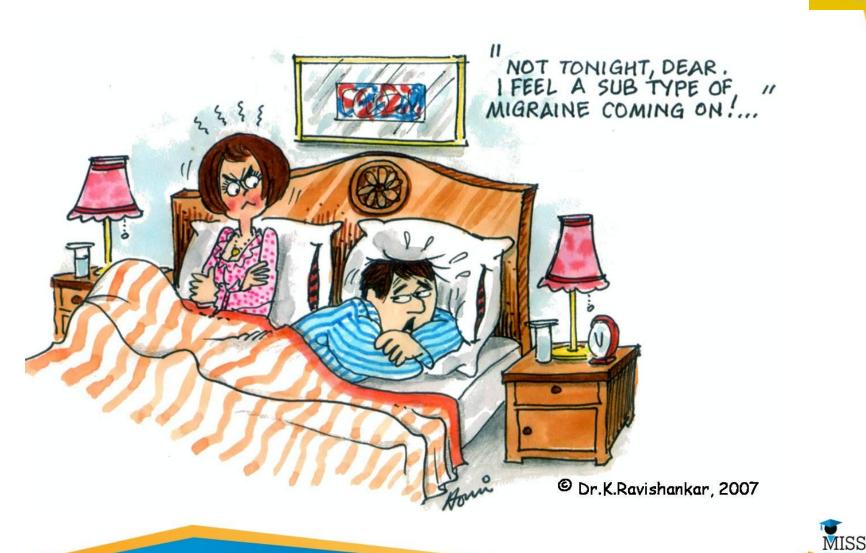








#### Reversing The Role ?







- 1947 Rosenbaum M (? Conversion disorder)
- 1962 Adhoc classification Committee 2 categories
- 1988 ICHD1 Not included
- 2004 ICHD2 Headache attributed to Psychiatric disorders
- Headache, no typical characteristics, no other cause
- Presence of a somatisation disorder or psychotic disorder
- Headache during active psychiatric phase + resolution





- Epidemiological evidence of Psychiatric comorbidity
- Possible underlying mechanisms
- Effect of comorbidity on course, severity, treatment response
- How comorbidity determines treatment



### Psychological Screening in 'Headache' ?

- Why Neurologists do not screen for Comorbidities?
- Why should we screen for Psychiatric comorbidity ?
- Possible Negative consequences of Psychiatric screening ?



### Mechanisms of COMORBIDITY

- Psychiatric disorders CAUSAL to Migraine
- Migraine is CAUSAL
- Common shared etiological factor
- Genetic factor for neurotransmission, hormone regulation



### **Risk Factors for Migraine Progression**



Non - Modifiable	Modifiable	Putative, Under Inv.
Female gender	Attack Frequency	Allodynia
Age	Obesity	Pro-Inflammatory
Low Socioeconomic Status	Medication Overuse	States
Head Trauma	Caffeine Overuse	Pro-Thrombotic
	Depression / Stress	States
	Snoring / Sleep Apnoea	Specific Genes

Bigal ME et al . Neurology 2008;71:848-855



# Midas / Hit-6

	vo You Suffer From		
	midas Questionnaire		
INS Wri	TRUCTIONS: Please answer the following questions about ALL your headaches you have had over the your answer in the box next to each question. Write zero if you did not do the activity in the last	the last 3 m 3 months.	onths.
1	On how many days in the last 3 months did you miss work or school because of your headaches?		days
2	How many days in the last 3 months was your productivity at work or school reduced by half or more because of your headaches? (Do not include days you counted in question 1 where you missed work or school)		days
3	On how many days in the last 3 months did you not do household work because of your headaches?		days
4	How many days in the last 3 months was your productivity in household work reduced by half or more because of your headaches? ( <i>Do not include days you counted in question 3 where you</i> <i>did not do household work</i> )		days
5	On how many days in the last 3 months did you miss family, social or leisure activities because of your headaches?		days
	TOTAL		days
A	On how many days in the last 3 months did you have a headachet (If a headache lasted more than 1 day, count each day)		days
B	On a scale of $0-10$ , on average how painful were these headaches? (Where $0 = no pain at all, and 10 = pain as bad as it can be)$		
Clen	wutive Medical Research 1997		
	Once you have filled in the questionnaire, add up the total number of days from questions 1-5 (	ignore A an	od B).
	II Mild or infrequent disability 6- III Moderate disability 11-	-5	

HIT-6 <sup>TM</sup> (VERSION 1.1) This questionnaire wa the way you feel an <b>To complete</b> , please	d what you cannot	do because of heada	nunicate	DACHE
		en is the pain sever	2?	
Never	Rarely	Sometimes	Very Often	Always
	eadaches limit your ool, or social activit		laily activities includ	ing household
Never	Rarely	Sometimes	Very Often	Always
3 When you have	a headache, how of	<mark>iten do you</mark> wish you	could lie down?	
Never	Rarely	Sometimes	Very Often	Always
4 In the past 4 we of your headach	eks, how often hav es?	e you felt too tired	to do work or daily a	activities because
Never	Rarely	Sometimes	Very Often	Always
5 In the past 4 we	eks, how often hav	<mark>e you felt fed up</mark> or	irritated because of	your headaches?
Never	Rarely	Sometimes	Very Often	Always
6 In the past 4 we daily activities?	eks, how often did	headaches limit you	r ability to concentr	ate on work or
Never	Rarely	Sometimes	Very Often	Always
		+ \\ +	+	$\bigtriangledown$
COLUMN 1 (6 points each)	COLUMN 2 (8 points each)	COLUMN 3 (10 points each)	COLUMN 4 (11 points each)	COLUMN 5 (13 points each)
To score, add poin Please share yo	nts for answers in our HIT-6 results with yo	cuch column		Higher scores indicat
187-6 <sup>to</sup> US (English) Version 1.1 +2000, 2001 QualityMetric, Inc. and GlauSmithKim	e Group of Companies			Score range is 36-78







### Implications of Psychiatric comorbidity

- Poor quality of life
- Greater in CM, Leads to MOH
- Leads to chronicity + analgesic abuse



### Psychiatric Comorbidity and Migraine Chronification



- CM + hronic migraine is more often associated with significant levels of depression and anxiety than episodic migraine.
- Comorbid psychiatric disorders are associated with increased disability and reduced quality of life.
- Higher levels of depression and anxiety are associated with more severe headaches.
- The presence multiple comorbid psychiatric disorders is associated with poor long-term prognosis.



- Migraineurs with depression and anxiety report lower satisfaction with acute drug treatment, poorer drug tolerability, long delays before resuming usual activities, and less migraine relief at 2 hours post-medication
- Patients with elevated levels of depression and anxiety are less likely to respond to behavioral treatments focused on headache.
- The presence of a comorbid psychiatric disorder at initial treatment may be associated with long-term relapse, even in patients who initially respond to pharmacotherapy.
- Behavioral and psychological risk factors predict the transformation of episodic migraine to chronic and daily headaches (chronification of migraine).
- Psychiatric comorbidity



#### Rationale for Psychiatric Screening in Headache Patients

- Psychiatric comorbidity can impact headache prognosis and satisfaction with headache treatment and is associated with increased headache-related disability. Anxiety and depression can produce differential response to headache prophylaxis and may indicate use of psychotropic medications to treat the comorbid disorder(s).
- Psychiatric comorbidity can influence adherence with headache treatment and in crease patients' tendencies to experience and report side effects.
- Psychiatric comorbidity can degrade quality of life and increase health care utilization.



- The use of antidepressants can trigger mania in patients with unrecognized bipolar disorder.
- Patients with bipolar disorder and/or history of chemical dependency may have a tendency toward medication overuse or drug-seeking behavior.
- Recognition of psychiatric comorbidity can be a key component in developing therapeutic doctor-patient relationship.
- Use of screening tools can improve the patients' recognition of and attention to relevant behavioral / psychiatric factors.
- Screening tools can be useful in ruling out suspected psychiatric basis for somatic complaints



- Primary Neurological disorder + Psychiatric problem
- Primary Psychiatric disorder + Headache
- Both 'Psychosis' and 'Headache' from separate aetiology
- Both as Comorbid disorders

Important to Evaluate Temporal Relationship



Migraine Psychiatric Comorbidity - 2

- □ In 78%
- Depression 57%
- Dysthymia 11%
- Panic Disorder 30%
- Gen Anxiety 8%





### Psychiatric Comorbidity in Migraine

- Impact on course, severity, treatment, prognosis
- Digraine + Mood disorders
  - > 50% show increase in depression scores
  - > 2 to 4 fold > in migraine
- Digraine + Anxiety
  - > 2 to 6 fold >
  - Panic + phobic + GAD + ? OCD
- Migraine + substance dependence
- Digraine + Personality traits ?



