**EDITED May 9, 2018 3:02 pm**

Research on Anemic populations and their conditions, co-morbidities, vitals, labs, meds, procedures, visit details, and demographics.

***The Prevalence of Anemia and Moderate Severe Anemia in the US Population (NHANES 2003-2012)***

\*\* notes: NHANES (n=41,771) Moderate and severe classifications compressed to one category of moderate-severe). Split into age groups, racial and gender categories. Pregnant women not included.

**Prevalence** *(GENERAL anemia formed from combining anemia and moderate-severe anemia categories. Pregnant women NOT included)*

1. Total sample 41,771
   1. Males – 20,864 (49.4%); Females 20,907 (50.6%)
2. # Anemics in sample = 3702
3. Of the 3702, twice as many females as males had anemia
   1. Females 2496 (67%); Males 1,206 (33%)

Anemia Age Categories (compressed)

* 0-14 (14.2% overall in this age group anemic)
  + Women n= 303 (12.14%)
  + Men n=223 (18.49%)
* 15-49
  + Women n= 1333 (53.4%)
  + Men n= (176) (14.6%)
* 50-79
  + Women (663) (26.5%)
  + Men (551) (45.%)
* 80-85
  + Women n=197 (8%)
  + Men n=256 (21%)

**Race -** AA both genders higher rates of anemia, especially females; White lowest; Hispanics in middle

From a TOTAL population of **41,771**

1. Overall: Non-Hispanic **White**; N = 16,329 (39% of sample) // anemic - N= 969 (26%)
   1. Anemic Males N= 391
      1. 42.5% anemic
   2. Anemic Females N= 528
      1. 57.5% anemic
2. Overall: Non-Hispanic **Black**; N= 10,174 (24% of sample) // anemic - N=1699 (46%)
   1. Anemic Males N= 444
      1. 27% anemic
   2. Anemic Females N= 1186
      1. 73% anemic
3. Overall: **Hispanic;** N= 12,756 (30.5% of sample) // anemic - N=772 (18%)
   1. Anemic Males N=156
      1. 20.7% anemic
   2. Anemic Females N=597
      1. 79.3% anemic
4. Overall: **Others** N= 3096 (7% of sample) // anemic - N=262 (7%)

**Percentages by Age, Race, Gender (5/7/2018)  *Percentages calculated below are based on a total of 3302*** that does NOT include the 400 Male patients with no age or race - hence N=3302)

Males Anemic White N= 391 (12% of anemic population N=3302) [ .9% of overall N=41,771]

0-14 = .064 (n=25)

15-49 = .064 (n=25)

50-79 = .442 (n=173)

80-85 = .43 (n= 168)

Male Anemic Black N=444 (%13.4 of anemic population N=3302) [ 1.0% of overall N=41,771]

0-14 = .243 (n=108)

15-49 = .221 (n=98)

50-79 = .47 (n=209)

80-85 = .065 (n=29)

Male Anemic Hispanic N=156 (4.7% of anemic population N=3302) [.3% of overall N=41,771]

0-14 = .282 (n=44)

15-49 = .122 (n=19)

50-79 = .5 (n=78)

80-85 = .096 (n =15)

Females Anemic White N=528 (16% of anemic population N=3302) [ 1.2% of overall N=41,771]

0-14 = .051 (n=27)

15-49 = .390 (n=206)

50-79 = .337 (n=178)

80-85 = .221 (n=117)

Female Anemic Black N=1,186 (36% of anemic population N=3302) [2.8 % of overall N=41,771]

0-14 = .150 (n=178)

15-49 = .559 (n=664)

50-79 = .25 (n=297)

80-85 = .039 (n=47)

Female Anemic Hispanic N= 597 (%18 of anemic population N=3302) [1.4 % of overall N=41,771]

0-14 = .125 (n=75)

15-49 = .596 (n=356)

50-79 = .234 (n=140)

80-85 = .043 (n=26)

Male Anemic (no race or age due to analytic approach) %15 of anemic popln1.2% of overall.

**Pregnancy**

1. Anemia across the board was 8.8% (general) and 3.5% for severe.
2. AA pregnant women highest 24%
3. White pregnant females 3.1%
4. Hispanic pregnant females 9.2%
5. “Other” pregnant females 15.6%

**Lab values**

1. Mean Hb levels 14.2 g/dl
2. Median 14.1 g/dl
3. Females lower than males (13.4 versus 14.9 g/dl)



***From other sources***

**Diagnosis/Causation**

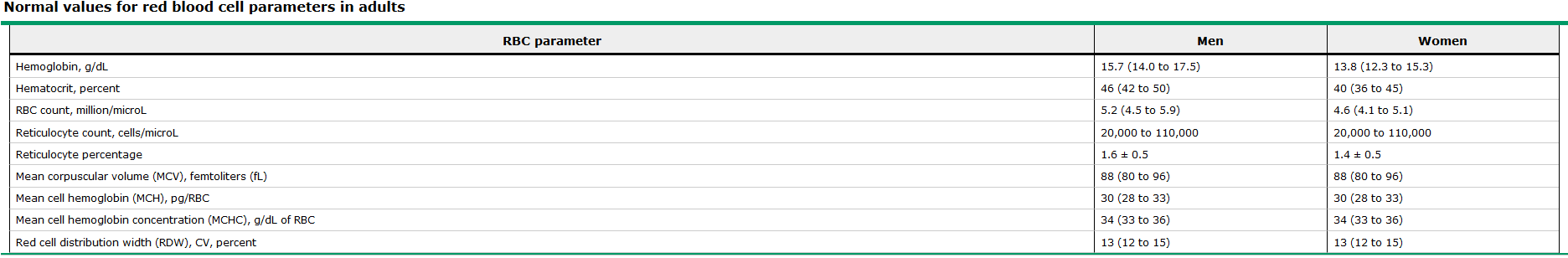
1. Iron deficiency
2. Chronic conditions:
   1. Associated with CHF (17%)
   2. Anemia of chronic inflammation (ACI)
   3. Sickle Cell disease
   4. Renal insufficiency (well known in renal failure/dialysis)McClellan
   5. Anemia was present in 47.7% of 5222 pre dialysis patients with chronic kidney disease. McClellan
   6. Women with chronic kidney disease markedly more likely to be anemic than men. McClellan
   7. Premenopausal higher than post menopausal. McClellan
   8. Diabetes with renal disease at higher riskMcClellan
   9. Anemia highest in patients with renal disease caused by: diabetes (54%); vascular disease (44%); HTN (42%); multiple myeloma (42%) and glomular nephritis (39%)McClellan
3. Race/ethnicity (3 times more common in AA that whites)
4. Post surgical
5. Cancers – various
6. Thalassemia
7. Hyperspleenism
8. Hemolytic anemia
9. HIV/AIDS
10. Diabetics in general (23% unrecognized on testing).Thomas

**Signs & Symptoms –** *2 categories 1.) decreased O2 delivery and 2.) hypovolemia*

1. Decreased O2 delivery:
   1. Fatigue
   2. SOB/exertional dyspnea
   3. Palpitations
   4. Cognitive performance decline (adults & children)
2. Slows psychomotor development (children)
3. Pre-term labor
4. Abnormally low birth weights
5. Maternal mortality
6. Left ventricular hypertrophy in renal insufficiency patients

**Lab values (Normal & Abnormal)**

1. ***Normal:***

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1. ***Abnormal*** (not valid in certain popl’ns like athletes and those at high altitudes)
   1. <13.5 g/dL (<135 g/L) or a HCT <41.0 percent represents anemia in men <12.0 g/dL (<120 g/L) or <36.0 percent, represents anemia in women
2. (eGFR) of less than 60 ml/min/1.73m2

**Vitals**

**Meds**

1. Oral iron supplements
2. B-12
3. IV infusions

**Procedures**

**LABS**

1. HGB
2. HCT
3. Erthyrocytes
4. Red cell indices
5. WBC platelet & reticulocyte counts
6. Blood smear
7. serum ferritin, serum iron and iron-binding capacity
8. Dependent on dx

**Procedures as in orders/treatments????? (not sure)**

**Visit Details**

**?????**

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0-14 = .064

15-49 = .064

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80-85 = .43

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0-14 = .243

15-49 = .221

50-79 = .691

80-85 = .065

Male Anemic Hispanic (4.7% of anemic population N=3302) [.3% of overall N=41,026]

0-14 = .282

15-49 = .122

50-79 = .5

80-85 = .096

Females Anemic White N=528 (16% of anemic population N=3302) [ 1.2% of overall N=41,026]

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15-49 = .596

50-79 = .234

80-85 = .044

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