Preemptive identification of mental-behavioral issues and optimization before surgery to coping with surgical stress and pain

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INTRODUCTION

It has been shown that presence of preoperative anxiety and depression contribute to poor pain coping after surgery in children. Mental health characteristics however are often not evaluated and addressed within clinical surgical workflows. We initiated a process for preoperative screening and referral to pediatric psychiatric intake Response center (PIRC) for patients undergoing pectus excavatum surgery in July 2019. We conducted a pragmatic QI study to evaluate process compliance, utility and patient reported outcomes following this intervention.

GOALS

We aimed to achieve

a) 90% compliance with process,
b) demonstrate utility in at least 50% of referred patients,
c) increase satisfaction among those who followed PIRC processes compared to historical processes in patients with anxiety.

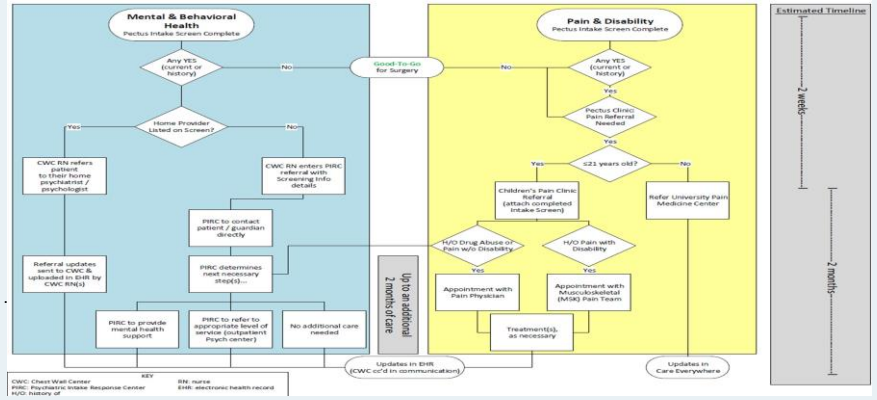
METHODS

The intake questionnaire the surgical team was using was streamlined to include specific questions about psychologic, addiction and pain concerns. An algorithm for preoperative PIRC and pain referral was developed by multidisciplinary team (Fig 1) and implemented.

We assessed:

a) Compliance with algorithm
b) PIRC referral indications, PIRC assessments including questionnaire scores (GAD7, PHQ, Columbia suicide severity and over aggression)
c) PIRC interventions over evaluable (non-COVID) 12 months.
d) Patient reported satisfaction (with pain/surgery) scores in-hospital and after discharge were assessed.

RESULTS (ALGORITHM – Fig 1)



RESULTS:

Post-implementation, 96 patients underwent Nuss procedure over 12 months.

We found 100% compliance with PIRC referral algorithm.

Of note, 44/96 (46%) patients met criteria for PIRC referral. Indications for referral were history of anxiety (38/44), intense sadness/depression (3/44), concern for alcohol/drug addiction (3/44) and suicidal ideation (1/44). Of these, 10 patients were already followed preoperatively by psychiatry/psychology/pain clinic where they were referred to for preoperative optimization. Thus, 35% (34/96) patients were referred to PIRC.

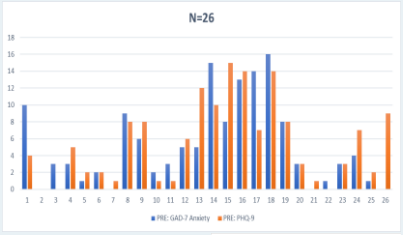
PIRC successfully contacted 97% and 79% completed intake (N=7 not interested). Interventions included counseling (coping skills, CBT, sleep hygiene education) (N=20), further workup and referral to BMCP/psychiatry (N=4) or no intervention (N=2).

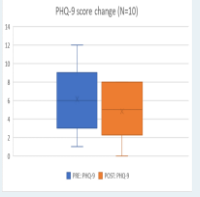
CONCLUSIONS

We demonstrated successful incorporation of preoperative mental health screening within surgical workflow. High number of positive screens prompted preoperative interventions by PIRC in 71% of those referred. We conclude pre-surgical psychological assessments and intervention improves postoperative patient outcomes.

RESULTS:

Pre counseling scores were GAD7=5.12 (4.94), PHQ: 5.55 (4.72), Overt aggression: 2 positive and suicidal scale: 1 positive; Post-intervention scores (N=10) 1-21 days before surgery showed decreased GAD7=3.29(3.25); PHQ=4.83(3.13).





Patient reported satisfaction with inpatient and post-discharge pain were comparable, and overall satisfaction increased for post-intervention PIRC cohorts compared to historic controls with anxiety.

REFERENCES

1. Chidambaran V, et. al. European journal of pain 2017. Aug;21(7):1252-1265
2. Spitzer RL et.al. Arch Intern Med. 2006; 166 (10) 1092-97

None of the authors have any conflicts to disclose.