

Effectiveness of single-session POCUS teaching on JVP assessment: A Med Ed Project



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Introduction

Jugular Venous Pressure (JVP) assessment in the wider field of Point-of-care ultrasound (POCUS) is an easy-to-learn and quick skill. Moreover, it has gained an increasing amount of evidence supporting its high sensitivity and specificity in assessment of fluid status.

Objective

We aim to assess the effectiveness of a single 45-min POCUS teaching session on JVP assessment for Internal Medicine residents in improving comfort level, frequency of use, and integration of POCUS into inpatient clinical management.

Methodology

- 45-minute POCUS teaching session on JVP assessments:
 - 10 minute Powerpoint presentation on how to use an ultrasound/POCUS and clinical implications
 - 30 minutes of hands-on practice with handheld ultrasound
- Pre-intervention survey prior to start of the session
- Post-intervention survey 2 weeks after intervention
- Primary outcomes: POCUS comfort level, frequency of POCUS use, and impact of POCUS findings on clinical management. All variables are measured on a 0-100 slider scale.
- Data analyzed through independent t-test.

Discussion

- A short, single-session POCUS training on JVP assessment can be easily undertaken and incorporated into the Internal Medicine residency education.
- Significant improvement in comfort level with POCUS use was achieved after one session
- Frequency of use and its application into clinical management, though showing a general uptrend, remained not significantly increased
- Small sample size limits this study's statistical power
- Barriers include availability of equipment, limitation in time, and heterogeneity of adoption of POCUS amongst faculties
- Further quality improvement work is needed to identify ways to overcome those barriers

Results

Single-session POCUS training on JVP assessment significantly increases residents' comfort level in utilizing POCUS for JVP assessment and shows trend of improvement in frequency of use and incorporation into clinical management.

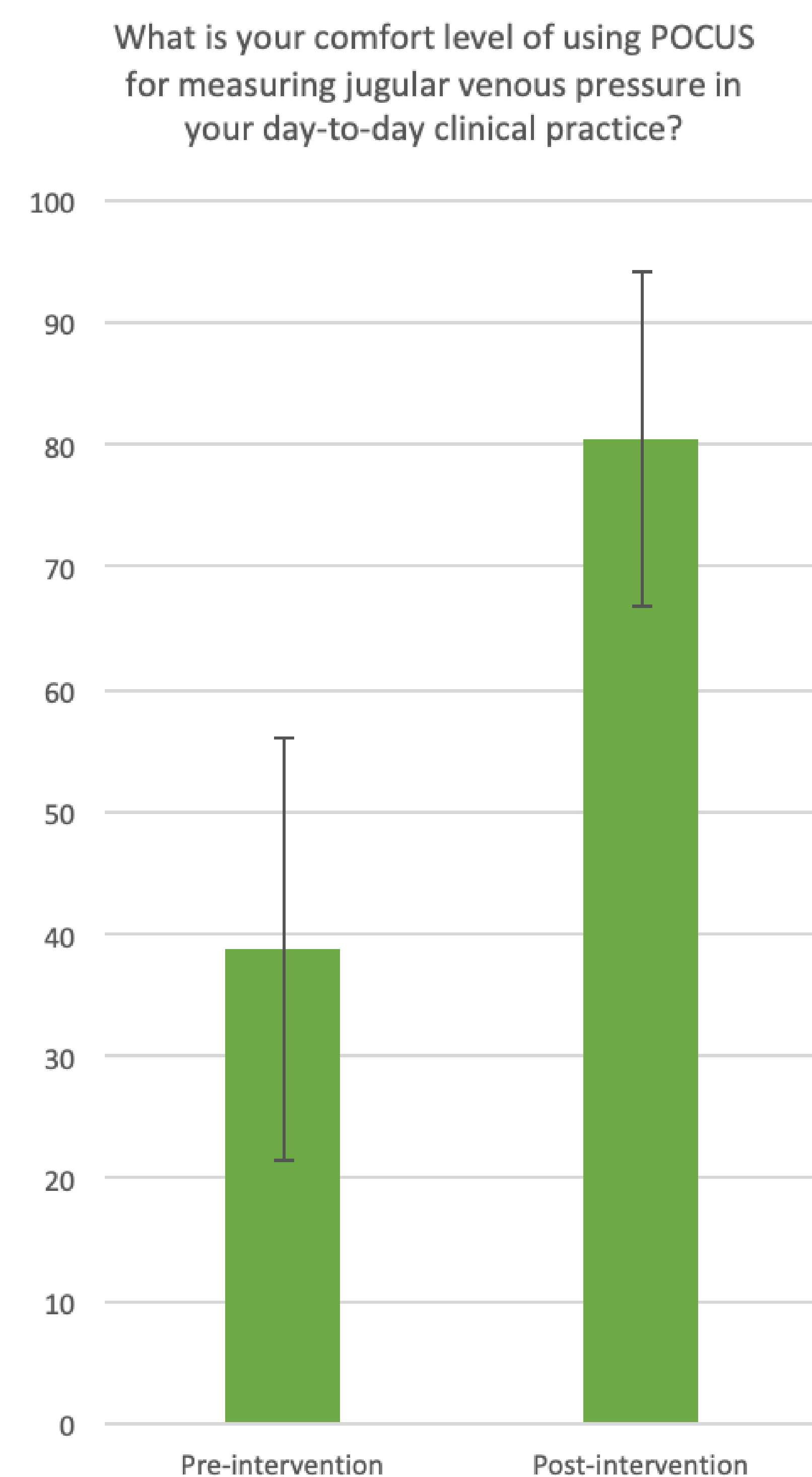


Figure 1. Comfort level of residents in using POCUS to assess JVP increased significantly from pre-intervention (38.7, CI = 21.7-55.7) (N=10) to post-intervention (80.4, CI = 66.8-94.0) (p=0.003) (N=5). Comfort level of measuring JVP with bedside POCUS is measured through a slider scale with 0 = not comfortable at all, 50 = somewhat comfortable, and 100 = very comfortable.

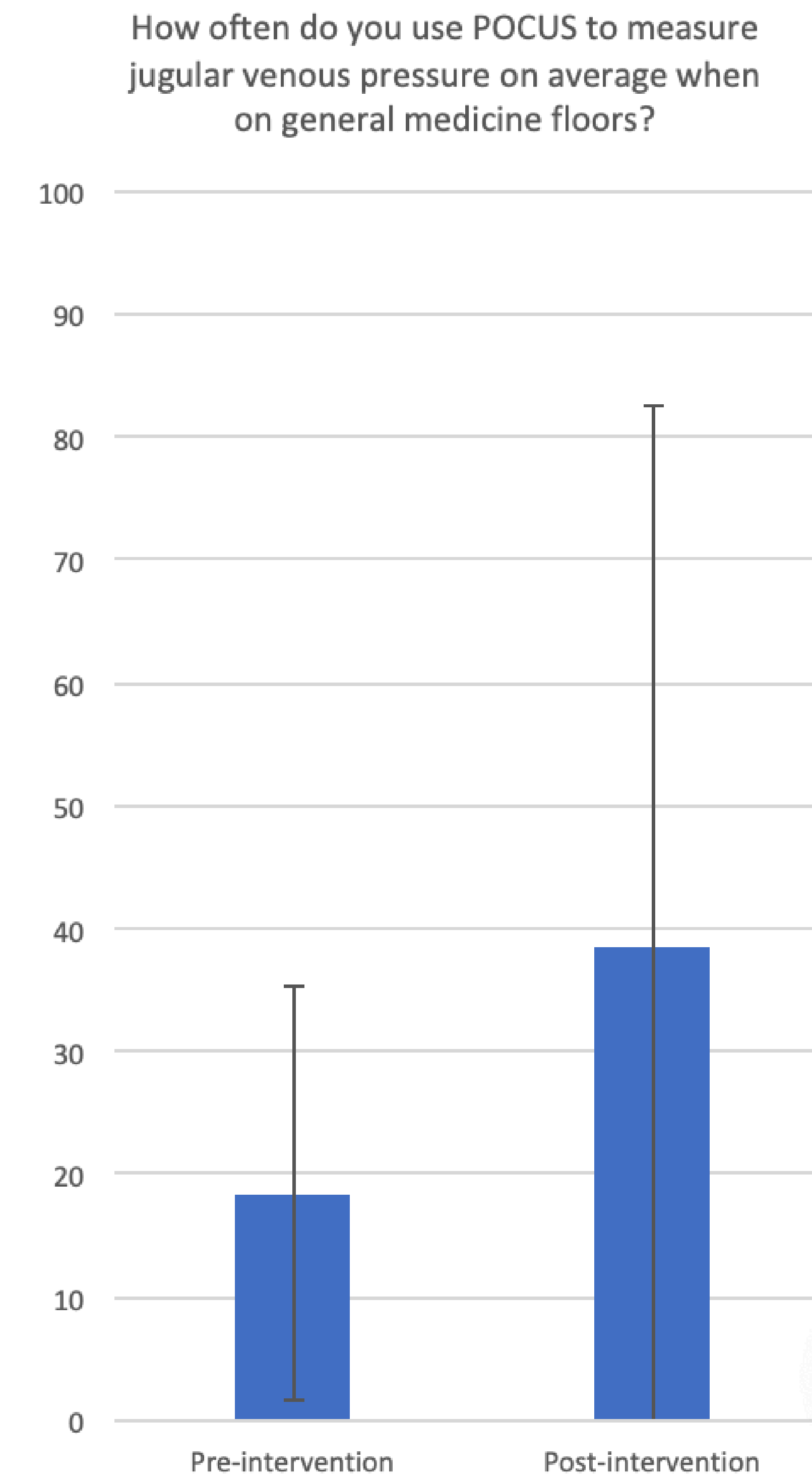


Figure 2. Frequency of using POCUS to assess JVP has increased from pre-intervention (18.4, CI = 1.5-35.3) (N=10) to post-intervention (38.6, CI = -5.3-82.5) (N=5) though not significantly (p=0.21). Frequency of measuring JVP with bedside POCUS is measured through a slider scale with 0 = never, 50 = once a week, and 100 = daily.

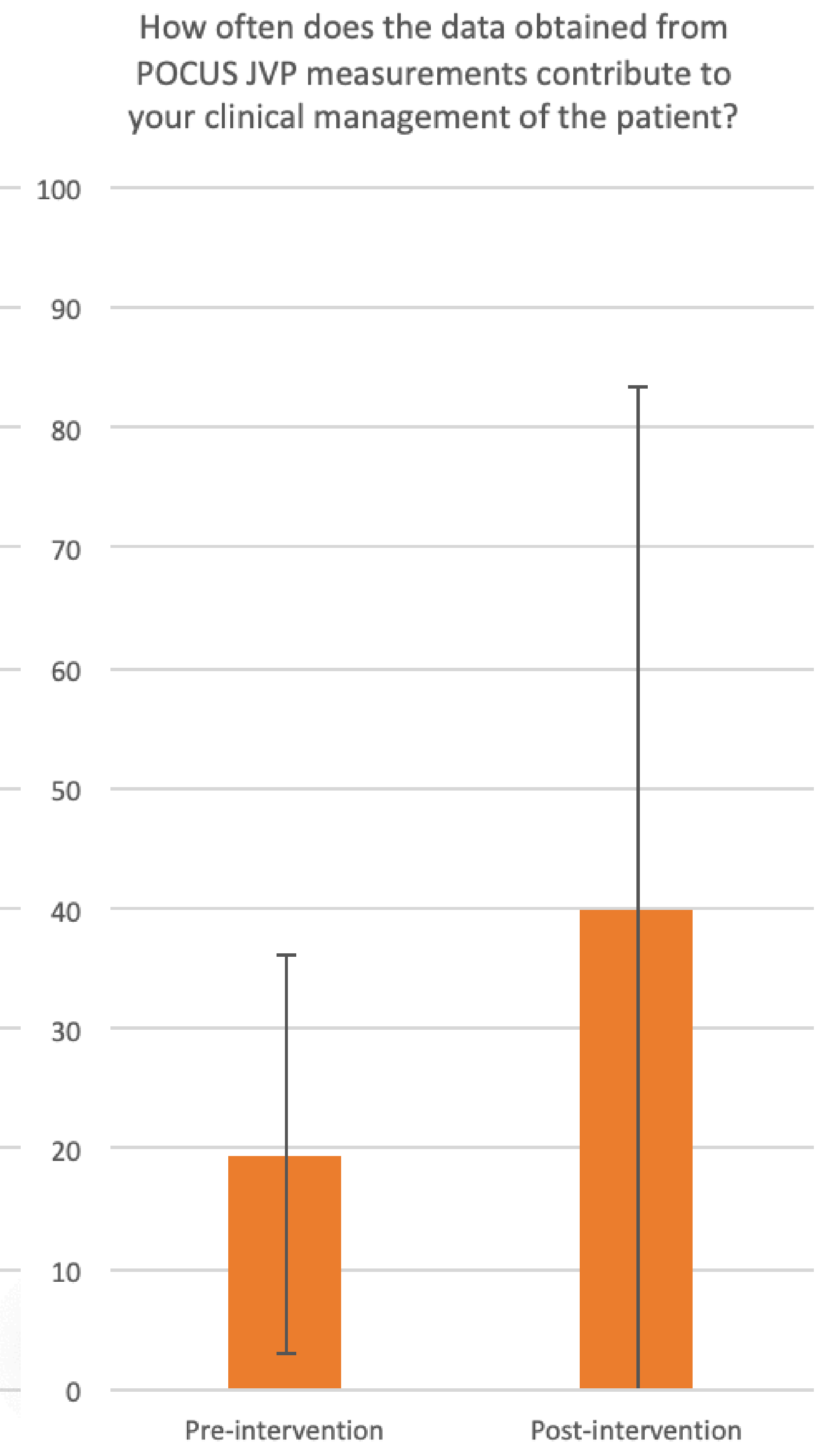


Figure 3. Incorporation of POCUS JVP assessment in clinical management has increased from pre-intervention (19.5, CI = 2.9-36.1) (N=10) to post-intervention (39.8, CI = -3.7-56.4) (N=5) though not significantly (p=0.20). Frequency of JVP measurement via POCUS impacting clinical management is measured a slider scale with 0 = never, 50 = once a week, and 100 = daily.



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