UNIVERSITAS
GADJAH MADA
Perbandingan Teknik Ekstubasi Metode Tekanan Positif dan Metode Suctioning Terhadap Selisih P/F Ratio pada Pasien SICU RSUP Dr. Sardjito
Muhammad Syarif Nurdianto, dr. Calcarina Fitriani R. W., Sp.An-TI, Subsp.T.I.(K) ; dr. Bowo Adiyanto, M.Sc., Sp.An-
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

INTISARI

Latar Belakang: Ekstubasi endotrakeal di ICU merupakan prosedur rutin dengan risiko komplikasi seperti aspirasi, atelektasis, dan gangguan oksigenasi. Metode *suctioning* dan tekanan positif sering digunakan, namun perbandingan keamanannya pada pasien SICU masih terbatas.

Tujuan: Membandingkan teknik ekstubasi tekanan positif dengan *suctioning* terhadap perubahan P/F ratio dan komplikasi pasca-ekstubasi pada pasien SICU.

Metode: Studi quasi-eksperimental *pretest-posttest* pada 109 pasien dewasa di SICU RSUP Dr. Sardjito (tekanan positif n=54; suctioning n=55) yang memenuhi kriteria inklusi. Intervensi berupa ekstubasi tekanan positif (PS 15 cmH_2O, PEEP 10 cmH_2O) dibandingkan *suctioning*. Outcome utama adalah selisih P/F ratio, dan sekunder adalah komplikasi hingga 48 jam. Analisis menggunakan *independent t-test* ($p<0,05$).

Hasil: Karakteristik subjek pada kedua kelompok relatif sebanding, dengan rerata usia sekitar 50 tahun (49,76 ± 16,23 vs 50 ± 15,32 tahun; p=0,937), distribusi usia dewasa dan lansia yang homogen (p=0,772), serta tidak terdapat perbedaan signifikan jenis kelamin (p=0,293). Nilai PaO_2 pre-ekstubasi juga relatif sebanding antara kelompok tekanan positif dan suctioning (179,04 ± 53,67 vs 160,43 ± 53,07 mmHg; p=0,072). Namun, terdapat perbedaan signifikan pada jenis operasi (p=0,009). Tidak terdapat perbedaan signifikan selisih P/F ratio antara kelompok tekanan positif (116,78 ± 119,55 mmHg) dan suctioning (76,35 ± 128,30 mmHg; p=0,092), meskipun kelompok tekanan positif menunjukkan peningkatan lebih besar (pre: 360,63 ± 107,49 vs post: 477,41 ± 154,65; suctioning pre: 329,7 ± 110,17 vs post: 406,04 ± 154,17). Vital sign stabil tanpa perbedaan signifikan (misalnya sistolik pre p=0,141). Komplikasi rendah secara keseluruhan (0% vs 5,5%; p=0,243); desaturasi 0% vs 3,6% (p=0,495), reintubasi 0% vs 1,8% (p=1,000), tanpa aspirasi atau takipnea.

Kesimpulan: Terdapat kecenderungan peningkatan selisih P/F ratio yang lebih baik pada teknik ekstubasi metode tekanan positif dibandingkan metode *suctioning* pada pasien SICU RSUP Dr. Sardjito, namun perbedaan tersebut tidak bermakna secara statistik sehingga kedua metode menunjukkan efektivitas yang relatif sebanding dalam mempertahankan oksigenasi pasca ekstubasi.

Kata kunci: ekstubasi, tekanan positif, metode *suctioning*, P/F ratio

UNIVERSITAS
GADJAH MADA
Perbandingan Teknik Ekstubasi Metode Tekanan Positif dan Metode Suctioning Terhadap Selisih P/F Ratio pada Pasien SICU RSUP Dr. Sardjito
Muhammad Syarif Nurdianto, dr. Calcarina Fitriani R. W., Sp.An-TI, Subsp.T.I.(K) ; dr. Bowo Adiyanto, M.Sc., Sp.An-
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

ABSTRACT

Background: *Endotracheal extubation in the ICU is a routine procedure associated with complications such as aspiration, atelectasis, and impaired oxygenation. Suctioning and positive-pressure methods are commonly used; however, data comparing their safety in SICU patients remain limited.*

Objective: *To compare the positive-pressure extubation technique with the suctioning method regarding changes in P/F ratio and post-extubation complications in SICU patients.*

Methods: *A quasi-experimental pretest-posttest study was conducted on 109 adult patients in the SICU of RSUP Dr. Sardjito (positive-pressure group n=54; suctioning group n=55) who met the inclusion criteria. The intervention consisted of positive-pressure extubation (PS 15 cmH_2O, PEEP 10 cmH_2O) compared with suctioning. The primary outcome was the difference in P/F ratio, while secondary outcomes included complications within 48 hours. Data were analyzed using the independent t-test ($p<0.05$).*

Results: *Subject characteristics in both groups were relatively comparable, with a mean age of approximately 50 years (49.76 ± 16.23 vs 50 ± 15.32 years; p=0.937), homogeneous distribution of adult and elderly patients (p=0.772), and no significant difference in sex distribution (p=0.293). Pre-extubation PaO_2 values were also relatively comparable between the positive-pressure and suctioning groups (179.04 ± 53.67 vs 160.43 ± 53.07 mmHg; p=0.072). However, there was a significant difference in the type of surgery performed (p=0.009). No significant difference was found in the change of P/F ratio between the positive-pressure group (116.78 ± 119.55 mmHg) and the suctioning group (76.35 ± 128.30 mmHg; p=0.092), although the positive-pressure group demonstrated a greater increase (pre: 360.63 ± 107.49 vs post: 477.41 ± 154.65; suctioning pre: 329.7 ± 110.17 vs post: 406.04 ± 154.17). Vital signs remained stable without significant differences (e.g., pre-extubation systolic blood pressure p=0.141). Overall complications were low (0% vs 5.5%; p=0.243), including desaturation (0% vs 3.6%; p=0.495), reintubation (0% vs 1.8%; p=1.000), with no aspiration or tachypnea observed.*

Conclusion: *There was a tendency toward a greater improvement in P/F ratio with the positive-pressure extubation technique compared with the suctioning method in SICU patients at RSUP Dr. Sardjito; however, the difference was not statistically significant, indicating that both methods demonstrated relatively comparable effectiveness in maintaining post-extubation oxygenation.*

Keywords: *extubation, positive pressure, suctioning method, P/F ratio*