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Comparison of the Tobin Index with the P0.1/MIP Ratio as Predictors of Successful Weaning from Mechanical Ventilation

Comparação do Índice de Tobin com a Razão P0.1/MIP como Preditores do Sucesso no Desmame da Ventilação Mecânica

Comparación del Índice de Tobin con la Relación P0.1/MIP como Predictores del Éxito del Destete de la Ventilación Mecánica

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ABSTRACT

Objective: To compare the Tobin index and the P0.1/MIP ratio as predictive factors for weaning from mechanical ventilation, in adult patients. **Methods**: This systematic review followed Cochrane, PRISMA, and AMSTAR 2 guidelines. It included randomized clinical trials (RCTs) that used the Tobin Index and P0.1/MIP ratio as weaning predictors. Two independent reviewers conducted article selection, risk of bias analysis (using RoB 2), and evaluated evidence quality (via GRADEpro GDT). **Results:** Only two studies, totaling 217 patients, met the inclusion criteria. While the Tobin Index is more frequently referenced in the literature, no significant difference in predictive accuracy as found between the two indices. However, both studies presented high risk of bias and low-quality evidence limiting the strength of the conclusions. **Final considerations:** Ultimately, both the Tobin Index and P0.1/MIP were considered reliable tools for predicting successful weaning from IMV, but neither showed clear superiority. Notably, ventilation time and mortality outcomes ventilation time and mortality outcomes were not adequately explored compared in the included studies.

Keywords: Mechanical ventilation, Weaning predictors, Tobin Index, P0.1/MIP ratio, Systematic review.

RESUMO

Objetivo: Comparar índice de Tobin e a relação e P0.1/MIP como fatores preditivos para o desmame da ventilação mecânica em pacientes adultos. **Métodos:** Revisão sistemática conduzida conforme os critérios do Cochrane Handbook, PRISMA e AMSTAR 2. Foram incluídos ensaios clínicos randomizados que utilizaram o Índice de Tobin e a razão P0.1/MIP como preditores de desmame. Dois revisores independentes realizaram a seleção dos estudos, análise de risco de viés (RoB 2) e avaliação da qualidade das evidências (GRADEpro GDT). **Resultados:** Apenas dois estudos preencheram os critérios, totalizando 217 pacientes. Apesar de o Índice de Tobin ser mais citado na literatura, não houve diferença significativa de acurácia entre os preditores. Ambos os estudos apresentaram alto risco de viés e baixa qualidade de evidência. **Considerações finais:** *O* Índice de Tobin *e o* P0.1/MIP são considerados ferramentas confiáveis para prever o desmame da VMI, mas nenhum demonstrou superioridade clara. Os desfechos de tempo de ventilação e mortalidade não foram adequadamente explorados nos estudos incluídos.

Palavras-chave: Ventilação mecânica, Preditores de desmame, Índice de Tobin, Razão P0.1/MIP, Revisão sistemática.

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RESUMEN

Objetivo: Comparar el índice de Tobin y la relación P0,1/MIP como factores predictivos del destete de la ventilación mecánica en pacientes adultos**. Métodos:** Revisión sistemática realizada según las guías del Cochrane Handbook, PRISMA y AMSTAR 2. Se incluyeron ensayos clínicos aleatorizados que utilizaron el Índice de Tobin y la relación P0.1/MIP como predictores de destete. Dos revisores independientes realizaron la selección de estudios, el análisis de sesgo (RoB 2) y la evaluación de la calidad de la evidencia (GRADEpro GDT). **Resultados:** Solo dos estudios cumplieron los criterios, totalizando 217 pacientes. Aunque el Índice de Tobin e más citado en la literatura, no se encontro diferencia significativa em la precisión predictiva los dos indicadores. Ambos estudios presentaron alto riesgo de sesgo y baja calidad de evidencia. **Consideraciones finales:** Tanto el *Índice de Tobin* como la *relación P0.1/MIP* son herramientas confiables para predecir el destete exitoso de la VMI, pero ninguno demostró superioridade clara. Los resultados sobre tiempo de ventilación y mortalidad no fueron explorados adecuadamente.

Palabras clave: Ventilación mecánica, Predictores del destete, Índice de Tobin, Relación P0.1/MIP, Revisión sistemática.

INTRODUTION

Invasive mechanical ventilation (IMV) is a widely used method in ICUs, with about one third of patients requiring ventilatory support (SILVA PL, et al., 2022). Although essential for airway protection and respiratory comfort, prolonged IMV use (over 21 days) is associated with increased morbidity and mortality due to complications such as ventilator-induced lung injury (PAUDEL R, et al., 2021).

Weaning from mechanical ventilation requires structured protocols to reduce ventilation time and related risks. The spontaneous breathing trial (SBT), lasting 30 minutes to 2 hours, is a key strategy, with success defined as ≥48 hours of independent breathing (VAHEDIAN-AZIMI A, et al., 2020; BHAGAT K, 2024).

Key clinical indicators include FiO_2, RR, PaO_2/FiO_2, and PEEP. Predictive indices such as the P0.1/MIP ratio and the Rapid Shallow Breathing Index (RSBI or Tobin Index) assist in forecasting weaning success (PARADA-GEREDA HM, et al., 2023; HA TS, et al., 2024).

Using effective predictive strategies improves outcomes and shortens hospital stays (TRUDZINSKI FC, et al., 2022). Despite broad use of RSBI and MIP, some studies question their clinical applicability, proposing alternative predictors with greater accuracy and impact on hospital stay (MARSHALL G, et al., 2023). Thus, this study aims to compare RSBI and P0.1/MIP as predictive factors in weaning adult patients from mechanical ventilation, supporting improved care strategies and patient quality of life.

METHODS

This is a systematic literature review, based on the Cochrane Handbook, carried out in accordance with the PRISMA (*Preferred Reporting Items for Systematic Reviews and Meta-Analyses*) criteria and the AMSTAR 2 *checklist*. The protocol was registered with PROSPERO *(*International *Prospective Register of Systematic Reviews*), with registration number CRD42024501050.

Search strategy

The search strategy for each database was: MEDLINE/PubMed “Tobin Index” OR “Rapid Shallow Breathing Index”, Embase ‘Tobin Index’ OR ‘Rapid Shallow Breathing Index’, Cochrane Library “Tobin Index” OR “Rapid Shallow Breathing Index”, BVS ‘Tobin Index’ OR ‘Rapid Shallow Breathing Index’, Scopus “Tobin Index” OR “Rapid Shallow Breathing Index”, PEDro #1 Tobin Index, #2 Rapid Shallow Breathing Index, Web of Science ALL=(“Tobin Index” OR “Rapid Shallow Breathing Index”). The descriptors used were taken from the Medical Subject Headings (MeSH) and the Health Sciences Descriptors (DeCS). Therefore, they were Ventilator Weaning/ Ventilator Disconnection/ Sevrage de la ventilation mécanique, Intensive Care Units/ Intensive Care Units/ Unités de soins intensifs, Respiration, Artificial/ Respiración Artificial/ Ventilation artificielle, Airway Extubation/ Traqueal Extubation/ Extubation, Adult/ Adulto/ Adulte, Hospital Mortality/ Mortalidad Hospitalaria/ Mortalité hospitalière AND Length of Stay/ Tempo de Internação/Durée du sejour.

Eligibility criteria and study selection

The present study included randomized controlled clinical trials that had samples of both sexes, in the adult age group, over 18 years old, on invasive ventilatory support in the intensive care unit and requiring intervention for ventilatory weaning. Thus, studies that did not have the PICOS strategy defined, that were not performed with adult patients on invasive ventilation and that did not use the P0.1/MIP ratio or the RSBI as predictors for weaning were excluded. The PICOS strategy was used to select the studies: population (P); interventions – (I); – comparison (C); outcomes –(O) and study-design – (S). The PICOS strategy for this review was: P (Adult patients on ventilatory support); I (P0.1/MIP); C (Tobin Index); O (Success in ventilatory weaning, shorter ventilation time and mortality); S (Randomized Clinical Trials).

Information Sources

The searches were conducted by a reviewer in the following databases: MEDLINE/PubMed, Physiotherapy Evidence Database (PEDro), Cochrane Library, Embase, BVS, Scopus, Web of Science, and gray literature. In addition, the gray literature databases searched were the Brazilian Digital Library of Theses and Dissertations (BDTD), Catalog of Theses and Dissertations, Clinical Trials, MedRxiv, OpenGrey, and PROSPERO. In the MEDLINE/PubMed, Cochrane Library, Embase, BVS, Scopus, and Web of Science databases, the descriptors and their respective synonyms were combined using the Boolean operators OR and AND, so that all databases were last consulted in March 2024.

Selection strategy

The assessments were performed independently by two reviewers and were subsequently compared to include all identified records. The Rayyan™ Software was used for stratification, data organization, identification, and removal of duplicates. Therefore, after the search in the gray literature, these articles were read and excluded by title and abstract. After this step, duplicates of studies from the white literature databases were extracted; both steps were also performed by two reviewers.

After duplicate removal, titles and abstracts of each article were reviewed to determine eligibility, and articles not related to the topic were excluded. Tables were produced identifying the study based on the title, year of publication, and DOI (Digital Object Identifier) of those that were chosen by the reviewers for full reading. After this, the excluded studies had their reasons for exclusion recorded. To resolve disagreements, a third reviewer was required and to assist in the review process, the PRISMA guidelines were used, as well as their flow diagram.

Data collection process

Data collection was performed independently by two reviewers reading the full articles included. At this stage, a search was made for articles that were not available for full access, requiring contact with the respective authors. However, there was no response, resulting in 49 articles being excluded for this reason. After the selection process, tables were created with characteristics of the excluded studies, reasons for exclusion, and tables of the studies included in this review were done.

Data list

Regarding the variables collected, bibliometric data were collected, such as authorship, year of publication and language of the study, methods, including design, date and duration of the study, in addition to general characteristics of the participants, as well as sample size, age range, mean and standard deviation of age, sex, ventilation time in the ICU, inclusion and exclusion criteria. The results and interventions performed, the authors' declarations of interest and whether there was a prospective registration of each study were also collected.

Assessment of risk of bias in studies and evaluation of publication bias

To assess the risk of bias, the reviewers used the Cochrane Risk of Bias 2 (RoB 2) tool. The program provides questions, divided into 5 domains, about how the clinical trial was conducted, allowing, based on the answers of “yes”, “no”, “probably yes”, “probably not” or “no information available”, the assessment according

to the bias resulting from the randomization process, due to deviations from the planned interventions, due to the absence of outcome data, in the measurement of the outcome and in the selection of the reported result. After answering the questions, the tool's algorithm assessed the risk of bias as “low risk”, “some concern” or “high risk”, and then an overview of each study that was assessed by RoB 2 was carried out, called “Overall Bias”. The ROBVIS tool was also used to summarize the data produced by RoB 2. From this, traffic light and weighted bar graphs were created.

Effect measures

The effect measures analyzed were the age means, standard deviations, p value, sensitivity, specificity, positive predictive value, negative predictive value and accuracy of the predictors.

Synthesis methods

To define the eligible studies, these were read in full and, from there, the data obtained were summarized in tables, which contain the characteristics of the included and excluded studies. The main data obtained from each index were sensitivity, specificity, accuracy and area under the curve and the main comparison made was between the predictors RSBI and P0.1/MIP. The occurrence of missing data was recorded in the tables and described in the results.

Certainty assessment

The quality assessment of the body of evidence was performed using the GRADEpro GDT software, based on the Grading of Recommendations Assessment, Development and Evaluation (GRADE). This assessment was made considering 5 domains: risk of bias, inconsistency, indirectness, imprecision and publication bias. The software allowed the evaluation of each outcome of the studies included in the systematic review, to subsequently make a judgment of the quality of the evidence, which could be “very low”, “low”, “moderate” and “high”. The tables with the respective domains were made with the help of the GRADEpro GDT software and all decisions to downgrade the clinical trials and the quality of the evidence were justified through comments.

RESULTS

Study selection

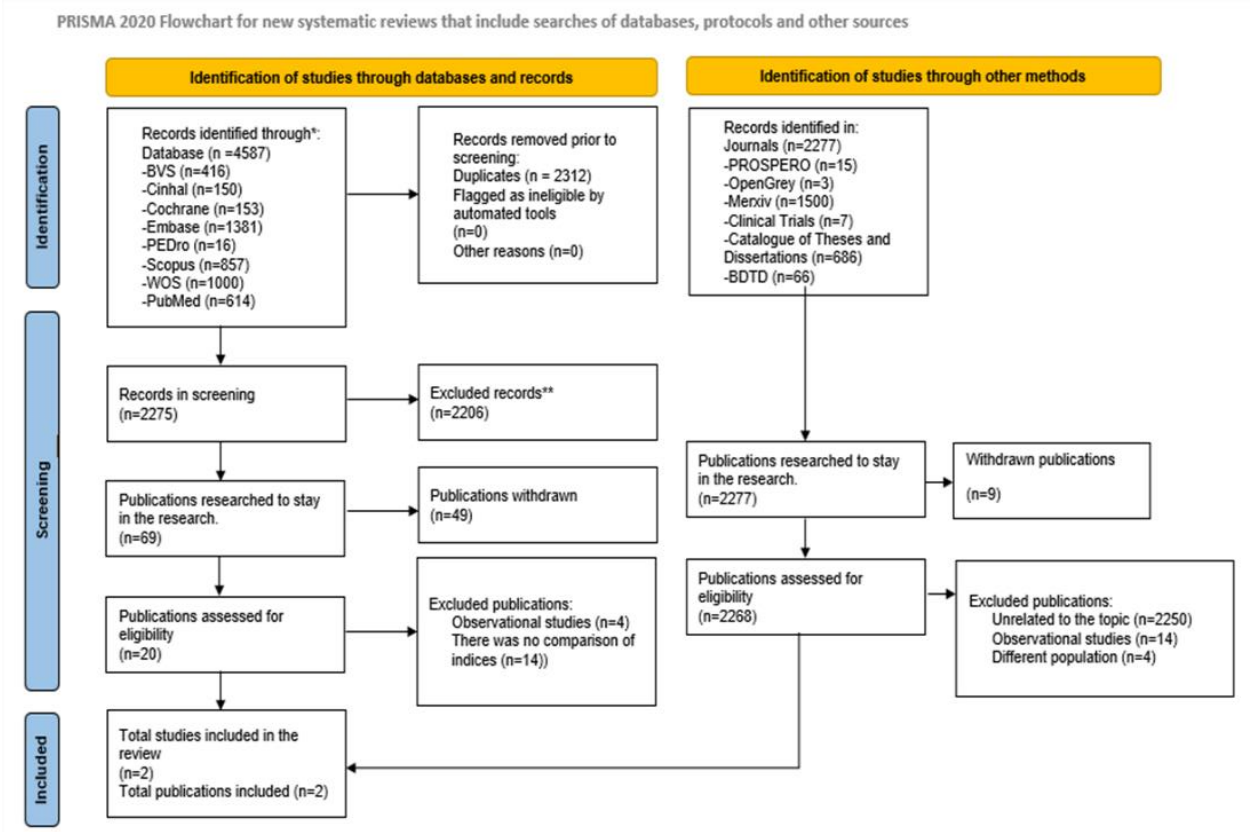
Using search strategies, 4,587 articles were found in the databases and 2,277 articles in the gray literature, all of which were excluded due to lack of information required by the inclusion criteria. After analyzing the 4,587 articles, performed by the Rayyan™ program, 2,312 duplicates were found, and 2,275 articles remained with possible chances of eligibility for analysis. Of this total, 2,206 studies were excluded by title and abstract, therefore including 69 articles for possible eligibility. Of this total, 8 were systematic reviews. In the end, 20 articles were selected for full reading and 2 met the inclusion criteria of this review. Those of an observational nature, those that were not related to the topic or that did not compare predictive indices or included a population different from that targeted by this study were excluded. The PRISMA flowchart in **Figure 1** shows the process of selecting articles according to identification, screening and inclusion. **Table 1** shows the excluded studies and their respective reasons.

Table 1 - Excluded studies and reason for exclusion.

Author/Year	Country	Language	Reason for exclusion
Huaringa AJ, et al. (2012)	United States	English	Observational study
Kuo CK, et al. (2015)	China	English	Does not address the comparison of RSBI with P0.1/MIP
Adams AB, et al. (2012)	United States	English	Observational study
Lessa FAM, et al. (2010)	Brazil	Portuguese	Does not address the comparison of RSBI with P0.1/ MIP
Mantovani S, et al. (2007)	Brazil	Portuguese	Does not address the comparison of RSBI with P0.1/ MIP
Santos MA, et al. (2007)	Brazil	Portuguese	Does not address the comparison of RSBI with P0.1/ MIP
El-Daim AA, et al. (2020)	Egypt	English	Does not address the comparison of RSBI with P0.1/ MIP
Zaytoun HA, et al. (2021)	Egypt	English	Observational study
Bien U, et al. (2015)	Brazil	English	Observational study
Yang KL and Tobin MJ (1991)	United States	English	Does not address the comparison of RSBI with P0.1/ MIP
Tu ML, et al. (2004)		Chinese	Does not address the comparison of RSBI with P0.1/ MIP
Delisle S, et al. (2011)	Canada	English	Does not address the comparison of RSBI with P0.1/ MIP
Perrigault PF, et al. (1999)	France	English	Does not address the comparison of RSBI with P0.1/ MIP
Vahedian-Azimi A, et al. (2020)	United States	English	Does not address the comparison of RSBI with P0.1/ MIP
Huo Y, et al. (2021)	China	English	Does not address the comparison of RSBI with P0.1/ MIP
Taniguchi LU, et al. (2015)	England	English	Does not address the comparison of RSBI with P0.1/ MIP
Kuo HJ, et al. (2006)	China	English	Does not address the comparison of RSBI with P0.1/ MIP
Yang KL (1992)	United States	English	Does not address the comparison of RSBI with P0.1/ MIP

Abbreviations: RSBI: Rapid Shallow Breathing Index; P0.1/MIP: P0.1 ratio to Maximum Inspiratory Pressure.
Source: Pinto NMS, et al., 2026.

Figure 1 - Search and selection of studies according to the PRISMA flowchart.



Source: Pinto NMS, et al., 2026.

Study characteristics

After the analysis, tables were created to collect the main information from each article. **Table 2** shows the study characteristics, such as authors, language, type of study, date and duration. **Table 3** presents the sociodemographic characteristics of the population included, such as authors, sample size, mean and standard deviation of age and sex, in addition to the definition of weaning failure and success for each author. The main variables sought by this review in the articles were the comparison of the rapid and shallow breathing index with the P0.1/MIP ratio, the duration of mechanical ventilation and mortality. The study by Capdevila XJ, et al. (1995), published in English, aimed to determine the use of standard predictive indices in relation to the most recent ones for the success of weaning from mechanical ventilation. The study had 67 participants and the main result shown by the authors was the success of ventilatory weaning, dividing the patients into 2 groups: failure and success. Thus, the authors evaluated and compared some predictors, including RSBI and P0.1/MIP.

The study by Sayed SS, et al. (2019), also published in English, aimed to evaluate the best predictor of ventilatory weaning in patients with chronic obstructive pulmonary disease (COPD). So, 150 patients participated in the research and the main variables elucidated by the authors were success in ventilatory weaning and mortality in the ICU. In addition, both articles pointed out the definition of failure and success in weaning, as well as evaluated and compared the RSBI and P0.1/MIP predictors, according to sensitivity, specificity, positive predictive value, negative predictive value, accuracy and “Area under the curve” (AUC).

Individual studies results

Based on the analysis of the findings by Capdevila XJ, et al. (1995) and Sayed SS, et al. (2019), it is possible to observe information such as the interventions carried out and the results obtained during the studies, through the weaning protocol used, the criteria considered for selecting the patients who participated in the studies, the interventions performed, and the outcomes achieved in each research.

Risk of bias in the studies

To assess the risk of bias in randomized clinical trials, the Risk of Bias 2.0 (RoB 2.0) tool was used.

Synthesis results and publication biases

Based on the data presented, it can be seen that the study by Capdevila XJ, et al. (1995) has a “high risk” classification in the randomization process, although the method of measuring the predictors is detailed and the p value is reported in all analyses, especially of the anthropometric data, it does not state whether the randomization process was done and no data is shown on how the sequence of allocation of the research participants was carried out. Also in this analysis, the domains of deviations from the planned interventions, bias due to the absence of outcome data and in the measurement of the outcome are also classified as “high risk”, since there is missing information, such as the knowledge of the participants and researchers about the interventions carried out. There is also “some concern” regarding the domain of selection of the reported result, since it was not possible to know whether all the outcomes that were planned to be analyzed were evidenced in the study. Thus, in the general classification, the program's algorithm considered the study as having a “high risk” of bias.

The article by Sayed SS, et al. (2019) is classified as “high risk” in the randomization process, in deviations from planned interventions, lack of outcome data and in outcome measurement, as they do not show information about how the patients were allocated, there is no detail on the distribution of the sample in the two groups, as well as there are no details on the outcomes in relation to the two groups used in the research. There are other pieces of information missing, such as the knowledge of the evaluator and the participants about the intervention. In addition, they do not report the methods used to measure the predictors and whether there was more than one evaluator for this purpose. The domain of selection of the reported outcome was classified as “some concern”, as the article does not provide the protocol registration number, making it impossible to know whether all the proposed outcomes were analyzed. As a result, the program's algorithm also classified the study as having “high risk” of bias.

Certainty of evidence

Using the GRADEpro software, the outcomes of mortality and weaning success were analyzed. **Tables 1** and **2** show the outcomes evaluated by this tool. Based on the analysis of the GRADE results, the mortality outcome was addressed in one of the articles included in this review. The risk of bias was assessed as very serious, while the other domains were assessed as not serious. However, it was not possible to highlight the best predictor of mortality, since the authors did not assess each predictor with mortality individually. Therefore, the quality of the evidence was classified as low. For the outcome of successful weaning from ventilation, the risk of bias was considered very serious, and the other domains as not serious, in addition to which the quality of the evidence was classified as low. Thus, there is no evidence that the Tobin Index, compared to P0.1/MIP, is a better parameter for predicting the success of weaning from mechanical ventilation or indicating lower mortality rates, therefore, there is no superiority between them.

Table 2 - General characteristics of the included studies.

Authors/Year	Country	Language	Study design	Objective of the study	Inclusion criteria	Exclusion criteria	Date and study duration	Prospective registration	Conflicts of interest
Capdevila XJ, et al. (1995)	France	English	RCT	To determine the utility of standard and recent indices in predicting successful extubation after prolonged mechanical ventilation	Successful 60-minute SBT with T-tube	Not informed by the authors	Not informed by the authors	No	No
Sayed SS, et al. (2019)	Egypt	English	RCT	To evaluate the best predictor of weaning outcome in patients with COPD.	ICU admission; Need for IMV; NIV failure; CPA; Hemodynamic instability.	Previous tracheostomy; Neurological and neuromuscular diseases; Extubation before or during the weaning process; post-cardiac arrest encephalopathy.	January 2015 to December 2016	No	No

Source: Pinto NMS, et al., 2026.

Table 3 - Sociodemographic characteristics of the included studies.

Authors/Year	Sample	Gender	Mean age and SD	Weaning failure	Weaning success
Capdevila XJ, et al. (1995)	n=67	Men: 44; Women: 23	48.43 ± 20.23 (successful group) 69.83 ± 7.75 (Failure group)	Weaning failure was defined as the need for ventilation 48h after extubation, based on 2 or more of the following criteria: pH<7.3, PaO2<60mmH2O, PaCO2>50mmHg, RR:>35bpm, HR>130 bpm, use of accessory muscles, left ventricular failure.	Weaning was considered successful when it was not necessary to resort to mechanical ventilation within 48 hours after extubation.
Sayed SS, et al. (2019)	n=150	Men: 110; Women: 40	61.56 ± 7.28	Weaning failure was defined as when the patient required non-invasive ventilation, reintubation or died 48 hours after extubation.	Weaning was considered successful if the patient was able to maintain spontaneous breathing for 48h, without signs of respiratory distress, with pH>7.35 and PaO2>60mmHg, with the patient receiving an FiO2≤50% via mask.

Abbreviations: pH: Potential of Hydrogen; PaO2: Partial Arterial Oxygen Pressure; FiO2: Fraction of Inspired Oxygen.
Source: Pinto NMS, et al., 2026.

DISCUSSION

This study sought to compare the predictive factors that guarantee a better outcome in weaning from mechanical ventilation. It was observed that, among the indices compared, there was no superiority of one predictor over the other in any of the aspects evaluated. The two articles used were published in 1995 and 2019 and the two predictors used for comparison in this systematic review were the Rapid Shallow Breathing Index and the P0.1/MIP ratio.

To perform ventilatory weaning, the team should not rely solely on clinical resources and consider other aspects, such as predictive indices. Therefore, in this review, two indices were compared, and as observed, most patients were successfully weaned and did not progress to death. Overall, the 1995 study showed that the P0.1/MIP ratio was better in all aspects evaluated, such as sensitivity, specificity, positive predictive value, negative predictive value, and accuracy, compared to the RSBI. However, the Tobin Index had an AUC of 0.93, with a specificity of 89% (CAPDEVİLA XJ, et al., 1995; HUO Y, et al., 2021; KARTHIKA M, et al., 2023). This can be explained by differences between the populations studied, the normal reference values used, and the way the predictors were evaluated.

The study by Sayed SS, et al. (2019) also showed that the RSBI has greater accuracy, specificity, positive predictive value, negative predictive value and AUC, in relation to P0.1/MIP. Thus, a similar result was found in other studies, who referred to the Tobin Index as the best predictor of weaning (TRIVEDI V, et al., 2022; LOMBARDI FS, et al., 2019). In addition, they mention the difference in measurement times and the population studied. The authors found RSBI values ranging from 95.9 to 98 in patients who developed ventilatory weaning failure, with these values being very close to the normal limit (<105 cycles/L/min), unlike that found in the article used in this review, with a value of 119 cycles/L/min in those individuals who developed failure, thus being a higher limit in relation to the normal range for this index (SAYED SS, et al. , 2019; TRIVEDI V, et al., 2022; LOMBARDI FS, et al., 2019; DOLINAY T, et al. , 2024). Furthermore, regarding sensitivity indicators, the literature shows that the value of the Tobin Index can reach 97, like that found in the findings of Sayed SS, et al. (2019), which is a value of 94.2. Regarding the P0.1/MIP ratio, there is a lack of bibliographical references that evaluate it, however, according to Vargas F, et al. (2008), it is a relevant parameter for predicting weaning, and P0.1/MIP can be used individually for patient assessment (SAYED SS, et al., 2019; VARGAS F, et al., 2008; NEMER SN, BARBAS CSV, 2011; MUZETTE FM, et al., 2022; WANG Y, et al., 2022).

Regarding the duration of mechanical ventilation, the articles from 1995 and 2019 do not address this, but mention the risks associated with prolonged ventilation. Prolonged ventilation is a period longer than 14 days, with some associated complications, such as increased hospitalization time and mortality risks. The duration of ventilation is also directly associated with successful weaning, as a 2024 study showed that a group of patients who evolved successfully had a shorter intubation time and did not require any other type of support after the process (BARTAL A, et al., 2024).

Regarding the mortality factor, the 2019 study addresses the occurrence of death 48 hours after withdrawal of ventilatory support. Therefore, the studies present in the literature evaluates and compares this factor with the RSBI.

In the analysis of this study, of the 150 participants, 45 had weaning failure and 6 individuals in this group died, while the mean RSBI was 119 cycles/L/min in the failure group. Analogous to this fact,140 patients failed, so that 41 died and the mean RSBI for this group was 102 cycles/L/min, which allows us to infer that the increase in the values of this predictor above 105 cycles/L/min is associated with a higher mortality rate and difficult weaning among patients (SAYED SS, et al., 2019; CHANG CH, et al., 2024).

During the development of this review, limitations related to the scarcity of evidence were observed, related to the use of the P0.1/MIP ratio in comparison with the Tobin Index or the individual use of this integrative index in research. Another limitation was the restricted access to studies without open availability, which constrained the breadth of evidence examined in this work. This systematic review can enhance and facilitate the clinical practice of health teams, through evidence-based practice, assisting in the decision-making process and determination of weaning protocols, considering the results presented and the individual aspects of the

patients that will be addressed, with consequent success in weaning, reduction of mortality rates and duration of mechanical ventilation.

CONCLUSION

This systematic review demonstrates that both the Tobin Index and the P0.1/MIP ratio are valuable tools in predicting successful weaning from mechanical ventilation. The Tobin Index is widely used for its simplicity and quick application, while the P0.1/MIP ratio adds important information about respiratory drive and muscle strength. The evidence indicates that neither parameter should be used in isolation; rather, combining them within a broader clinical assessment may enhance decision-making and improve patient outcomes. Further studies are needed to confirm these findings and establish standardized thresholds for diverse clinical settings.

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