

CUIDADO É FUNDAMENTAL

Escola de Enfermagem Alfredo Pinto – UNIRIO

ORIGINAL ARTICLE

DOI:10.9789/2175-5361.rpcfo.v17.13816

COMPARATIVE STUDY BETWEEN THE PAINAD AND ABBEY SCALES FOR PAIN ASSESSMENT IN NON-COMMUNICATIVE PALLIATIVE CARE PATIENTS

Estudo comparativo entre escala painad e escala abbey para avaliação da dor nos pacientes paliativos não comunicantes

Estudio comparativo entre la escala painad y la escala abbey para la evaluación del dolor en pacientes paliativos no comunicantes

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RESUMO

Objetivo: comparar a sensibilidade das escalas PAINAD e Abbey na avaliação da dor em pacientes paliativos não comunicantes.

Metodologia: estudo quantitativo, descritivo e exploratório, realizado em hospital de grande porte no Rio de Janeiro. A amostra foi composta por 10 pacientes em cuidados paliativos, avaliados simultaneamente pelas escalas PAINAD e Abbey. Foram utilizadas estatísticas descritivas e gráficos comparativos. **Resultados:** a PAINAD apresentou maior estabilidade e menor dispersão nos escores, indicando maior sensibilidade para variações sutis da dor, especialmente nos níveis moderado e severo. A Abbey demonstrou maior variabilidade e tendência a classificar mais pacientes com dor severa. **Conclusão:** os achados sugerem que a PAINAD pode ser preferida no monitoramento contínuo da dor em pacientes não comunicantes,

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Received: 2025/02/22/. **Accepted:** 2025/05/08

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How to cite this article: Alves ACES, Fernandes TCR, Carneiro R, Luna AA. Comparative study between the painad and abbey scales for pain assessment in non-communicative palliative care patients. R Pesq Cuid Fundam (Online). [Internet]. 2025 [cited year month day];17:e13816. Available from: <https://doi.org/10.9789/2175-5361.rpcfo.v17.13816>.



enquanto a Abbey pode auxiliar na identificação de casos graves. O estudo reforça a importância da capacitação contínua dos profissionais de enfermagem para a aplicação correta das escalas e melhor manejo da dor.

DESCRIPTORES: Dor; Cuidados paliativos; Escalas de avaliação; Enfermagem geriátrica.

ABSTRACT

DESCRIPTORS: Pain, Palliative care, Assessment scales, Geriatric nursing.

Objective: to compare the sensitivity of the PAINAD and Abbey scales in assessing pain in non-communicative palliative patients. **Methodology:** a quantitative, descriptive, and exploratory study conducted in a large hospital in Rio de Janeiro. The sample included 10 palliative care patients assessed simultaneously using the PAINAD and Abbey scales. Descriptive statistics and comparative graphs were used. **Results:** PAINAD showed greater stability and less score dispersion, indicating higher sensitivity to subtle pain variations, especially at moderate and severe levels. Abbey showed greater variability and a tendency to classify more patients with severe pain. **Conclusion:** findings suggest PAINAD may be preferred for continuous monitoring of pain in non-communicative patients, while Abbey may help identify more severe cases. The study highlights the importance of continuous training for nurses to ensure proper scale application and better pain management.

DESCRIPTORS: Pain; Palliative care; Assessment scales; Geriatric nursing.

RESUMEN

Objetivo: comparar la sensibilidad de las escalas PAINAD y Abbey en la evaluación del dolor en pacientes paliativos no comunicativos. **Metodología:** estudio cuantitativo, descriptivo y exploratorio realizado en un hospital de gran porte en Río de Janeiro. La muestra estuvo compuesta por 10 pacientes en cuidados paliativos evaluados simultáneamente con las escalas PAINAD y Abbey. Se utilizaron estadísticas descriptivas y gráficos comparativos. **Resultados:** la escala PAINAD mostró mayor estabilidad y menor dispersión en los puntajes, indicando mayor sensibilidad a variaciones sutiles del dolor, especialmente en los niveles moderado y severo. La escala Abbey presentó mayor variabilidad y tendencia a clasificar más pacientes con dolor severo. **Conclusión:** los hallazgos sugieren que PAINAD puede preferirse para el monitoreo continuo del dolor en pacientes no comunicativos, mientras que Abbey puede ser útil para identificar casos graves. El estudio refuerza la importancia de la capacitación continua del personal de enfermería para aplicar correctamente las escalas y mejorar el manejo del dolor.

DESCRIPTORES: Dolor; Cuidados paliativos; Escalas de evaluación; Enfermería geriátrica.

INTRODUCTION

Palliative care (PC) is a multidisciplinary approach aimed at promoting quality of life for patients with life-threatening illnesses and their families. This care aims to prevent and relieve suffering through the early identification, systematic assessment and appropriate treatment of pain and other physical, emotional and social symptoms.¹ Contrary to common belief, palliation is not restricted to the final moments of life, but begins early, encompassing the comprehensive management of symptoms throughout the progression of the disease.²

Pain is one of the most prevalent symptoms in these patients and is considered the fifth vital sign due to its impact on functionality and well-being. Because it is subjective, it involves not only physical sensation, but also emotional and social aspects, making its assessment a clinical challenge

(^{2,3}). To this end, several pain measurement scales have been developed, such as the Visual Analog Scale (VAS), the Pain Assessment in Advanced Dementia (PAINAD) and the Abbey Pain Scale, which are applied according to the patient's clinical and work condition.^{4,5}

In hospital environments, nurses play a significant role in pain control, as they are in continuous contact with patients. Therefore, the correct use of the scales avoids both the excessive administration of analgesics and underdosing, thus ensuring greater comfort in the recovery process, especially in non-communicating patients, who need reliable tools to assess pain.⁶

Given this scenario, this study aims to compare the sensitivity of the PAINAD and Abbey Pain Scales in assessing pain in non-communicating palliative patients, in order to analyze their effectiveness and clinical applicability in the hospital context.

METHOD

This is a quantitative, descriptive, cross-sectional study carried out in a large hospital in the city of Rio de Janeiro. The research was conducted in the inpatient sectors with PC patients monitored by the Palliative Care Committee. The sample was non-probabilistic for convenience⁷, including patients over 50 years old, of both sexes, with difficulty or inability to verbalize, and excluding those under continuous sedation.

Data collection took place between November 2024 and February 2025 and was carried out weekly in the afternoons by two trained researchers. The protocol followed four stages: inviting patients or legal representatives, signing the Informed Consent Form (ICF), assessing pain using the PAINAD and Abbey scales and consulting medical records to collect clinical and epidemiological information. Variables such as age, gender, comorbidities, main diagnosis, use of analgesic medication and length of stay were recorded.

The PAINAD and Abbey scales, both validated in Portuguese, were used to assess pain. The PAINAD assesses five domains: breathing, vocalization, facial expression, body language and consolability, scored from 0 to 2, giving a total score of 0 to 10 points. The classification was as follows: 1-3 (mild), 4-6 (moderate) and 7-10 (severe) (8,9). The Abbey Pain Scale analyzes six non-verbal indicators of pain: vocalization, facial expression, changes in body language, behavioral, physiological and physical, ranging from 0 to 18 points. The classification was: 0-2 (no pain), 3-7 (mild), 8-13 (moderate) and ≥ 14 (severe) (10).

The data was stored in Google Forms[®] and processed in Microsoft Excel[®] (version 365) before statistical analysis in MATLAB[®] software (version R2024a). Metrics such as mean, median, mode, standard deviation, minimum and maximum values were calculated. To visualize the distribution of pain levels according to the scales applied, bar graphs and boxplots were generated, the latter with the aim of identifying possible outlier results in the sampling process.

A comparison between PAINAD and Abbey was made by analyzing the score distributions, observing the proportion of

patients at each pain level. The relationship between the scores of the scales was also analyzed via a scatter plot, identifying possible patterns between the evaluations. A segmented analysis by gender was also carried out, generating comparative graphs of the means obtained for each scale.

In addition, differences between the scales were analyzed according to the type of analgesic used, comparing the means of patients taking morphine and dipyrone. This approach made it possible to assess whether the choice of medication influenced the scores assigned. It should also be noted that the study followed the guidelines of the National Health Council (Resolutions No. 466/2012 and No. 510/2016) and was approved by the Research Ethics Committee of the Alfredo Pinto School of Nursing under No. 6,898,925.

RESULTS

The sample for this study consisted of 10 inpatients under PC, assessed in different sectors of the hospital. The age of the participants ranged from 25 to 96 years, with the majority being female (7; 70%) and the remainder male (3; 30%). Regarding racial distribution, seven patients (70%) were classified as white and three (30%) as brown, with no records of black or indigenous patients. All the participants used some kind of analgesic to control their pain, with morphine being used by six patients (60%) and dipyrone by four patients (40%).

The scores obtained on the PAINAD and Abbey scales varied in their assessment of PC patients' pain. The mean PAINAD score was 3.40 (SD=1.78) and the median was 3.50, while the Abbey scale had a mean of 4.20 (SD=4.05) and a median of 2.00. This evidence indicates a greater range in the values obtained.

Next, the categorization of the scores obtained on the PAINAD and Abbey scales made it possible to classify patients into different levels of pain, according to the criteria established for these tools. Table 1 summarizes the distribution of patients according to the pain levels identified on each scale.

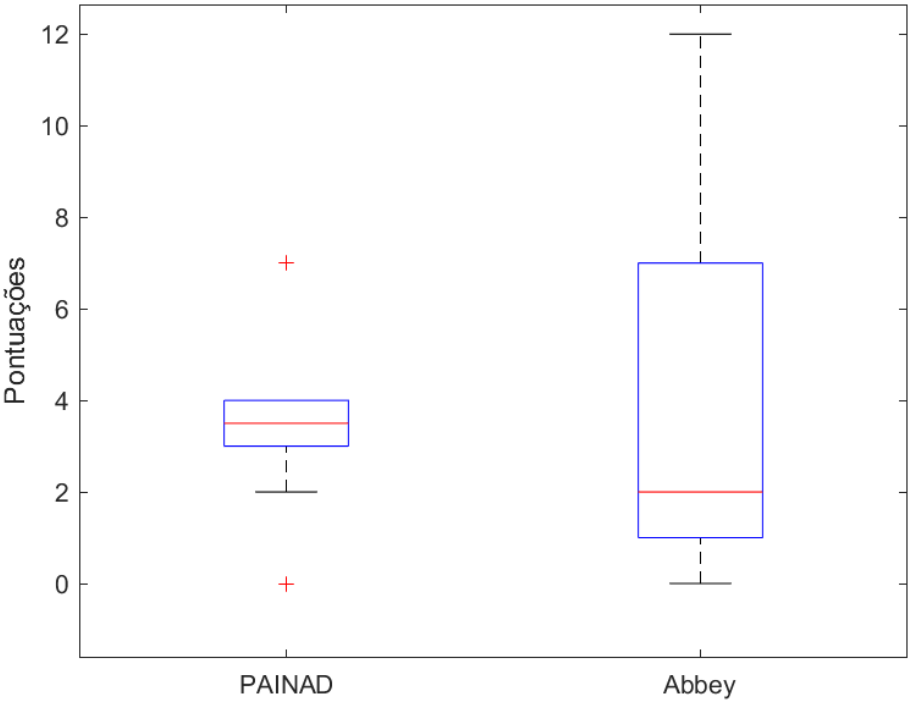
Table 1 - Distribution of the number of patients (n=10) according to pain classification using the PAINAD and Abbey scales. Rio de Janeiro, RJ, Brazil, 2024-2025

Variables	PAINAD	Abbey
No pain (0)	1	1
Light (1-3)	4	5
Moderate (4-6)	4	1
Severe (7-10)	1	3

From this same perspective, the distribution of scores on the PAINAD and Abbey scales was compared using a boxplot graph, allowing us to visualize the dispersion, the median of the scores obtained and the identification of spurious points

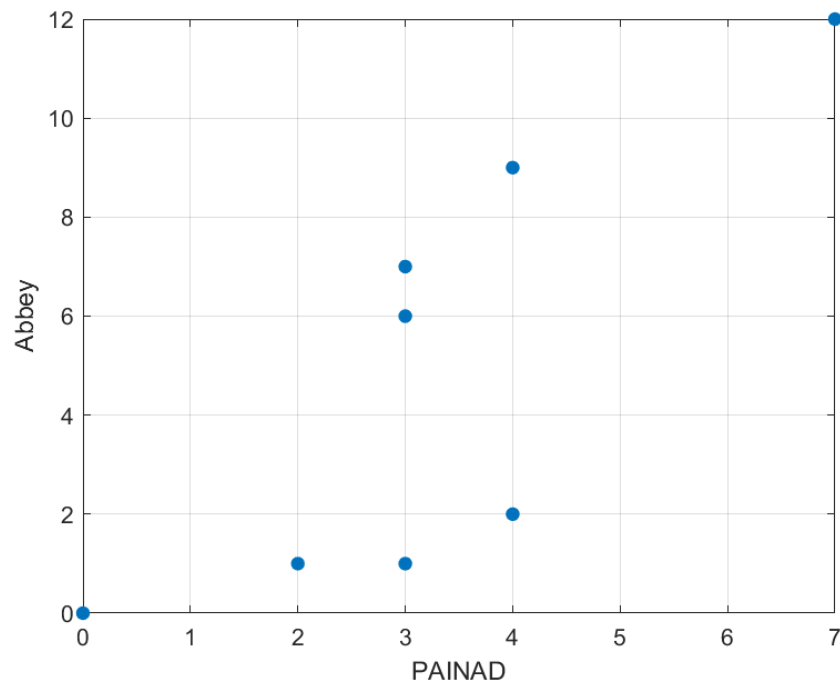
in the sampling process (outliers). Figure 1 illustrates this distribution, highlighting the difference in pain assessment patterns between the two scales.

Figure 1 - Comparison of the variation in PAINAD and Abbey Scale scores. Rio de Janeiro, RJ, Brazil, 2024-2025



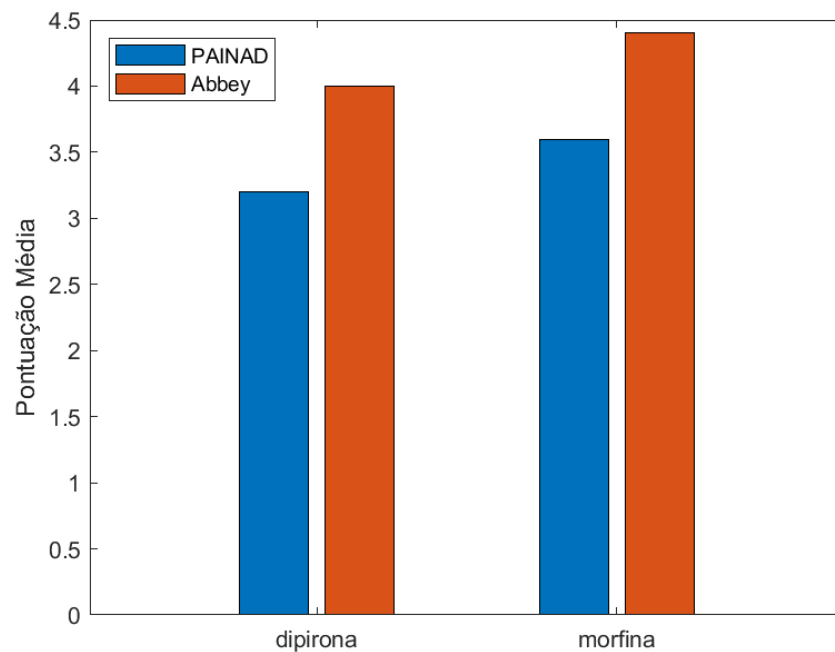
In addition, the relationship between the scores assigned by the PAINAD and Abbey scales was analyzed using a scatter plot. Figure 2 shows this distribution, demonstrating how

the scores vary between the scales and making it possible to identify possible patterns or trends in the results.

Figure 2 - Dispersion of PAINAD and Abbey Scale Scores. Rio de Janeiro, RJ, Brazil, 2024-2025

The mean scores of the PAINAD and Abbey scales were checked according to the type of analgesic used by the patients. The mean values were calculated separately for patients taking

dipyrone and morphine, allowing a comparison of pain assessments between the two groups (Figure 3).

Figure 3 - Comparison of PAINAD and Abbey Scale Mean Scores by Type of Analgesic. Rio de Janeiro, RJ, Brazil, 2024-2025

DISCUSSION

Pain assessment in non-communicating palliative patients continues to be a challenge in clinical practice, requiring specific and reliable scales. This study reinforces the relevance of the PAINAD and Abbey scales, showing differences in their sensitivity, consistency and clinical applicability. PAINAD stood out for its stable scores and better differentiation of pain into moderate and severe levels, while Abbey showed greater variability and a tendency to classify more patients with severe pain. These findings are in line with studies that indicate that scales based on behavioral signs tend to be more sensitive to pain progression, while scales that include physiological aspects may present inconsistencies in pain measurement.^{11,12}

The PAINAD had a mean of 3.40 and a median of 3.50, with a standard deviation of 1.78, indicating a symmetrical distribution and less variability between patients' scores (12). However, when compared to the Abbey pain scale, it has greater sensitivity and less divergence in the results.⁽¹³⁻²⁰⁾ The Abbey had a mean of 4.20, with a median of 2.00 and a standard deviation of 4.05, revealing a much greater dispersion in the scores. This finding suggests that the Abbey may be less reliable, as the inclusion of physiological criteria can generate excessive variability, making its application less standardized.⁹ However, the Abbey pain scale is capable of providing a simple and quick assessment, as well as helping the team to quickly identify a person in need of pain relief.¹³

With regard to the results presented in Table 1, the findings of this study show that the majority of patients were classified in the mild and moderate pain levels by the PAINAD scale, with only one case of severe pain identified. This reflects PAINAD's sensitivity in discriminating variations in pain intensity. Studies found in the literature highlight the importance of sensitive scales in non-communicating palliative patients, since pain is often underdiagnosed in these cases.^{1,13} The identification of severe pain, even in just one patient, reinforces the value of PAINAD in critical scenarios, allowing for faster and more concise interventions. This demonstrates the importance of reliable methodologies for assessing pain in vulnerable patients, ensuring more assertive and personalized interventions.¹⁴

As for the Abbey scale, the distribution of pain levels showed a higher concentration of patients classified with mild pain (n=5) and a lower frequency of moderate pain (n=1) compared to the PAINAD. However, more patients were classified as having severe pain (n=3), which suggests that Abbey may be more sensitive to detecting cases of severe pain. This distribution pattern may be related to the scale's

focus on broader physiological and behavioral markers, which may capture signs of severe pain differently from the PAINAD scale.^{2,15} On the other hand, the lower frequency of moderate pain may indicate less precision in differentiating between mild and moderate pain, which may impact the appropriateness of the *modus operandi* in certain cases. Scientific evidence indicates that scales such as the Abbey are useful for quick assessments, but may need to be combined with other tools for a more detailed assessment of pain in non-communicating palliative patients.^{7,16}

In Figure 1, the boxplot highlights a greater dispersion of scores in the PAINAD compared to the Abbey, indicating greater variability and potentially greater sensitivity in the PAINAD. The literature points out that scales such as the Abbey, although robust, may underestimate higher levels of pain due to their focus on physical changes.^{6,10} This difference suggests that the PAINAD may be more effective at capturing details such as behavioral changes and facial expressions, which are often observed in non-communicating patients.

In addition to the greater dispersion observed in the Abbey scale, its median is considerably lower compared to PAINAD, reinforcing the tendency of this scale to assign lower pain scores. The presence of extreme values (outliers) in the PAINAD indicates that this scale can capture more subtle variations in pain intensity, allowing it to identify cases of severe pain that could be underestimated by instruments with greater variability in scores. This difference in the distribution of scores can have direct implications for clinical management, since the choice of scale can impact the therapeutic decision, leading to relatively aggressive pain management.⁹ Previous studies have shown that scales based on physiological signs, such as the Abbey, can be less effective in patients whose pain is predominantly manifested through behavioral changes.^{1,13}

Based on the results in Figure 2, the scatter plot reveals a moderate correlation between the scales, with some important discrepancies, especially at higher levels of pain. These differences can be explained by the different assessment criteria of the scales: while PAINAD emphasizes behavioral and body language changes, Abbey focuses on physiological and physical indicators. This discrepancy highlights the need to consider watertight assessment tools in complex situations, as documented in various literature reports.^{2-3,17}

Although the general trend of the PAINAD and Abbey scale scores suggests a moderate correlation, the dispersion observed indicates that, in some cases, there are significant differences in the classification of pain between the two instruments. In particular, higher Abbey scores for some patients may reflect their greater sensitivity to physiological changes, while PAINAD,

by focusing on behavior and facial expression, may be more accurate in capturing pain in patients with limited verbal communication.¹⁸ The variability in the distribution of points suggests that the isolated use of a single scale may not be sufficient for a comprehensive assessment of pain, reinforcing the need for triangulation of methods to ensure a more accurate detection of patient suffering.¹⁹ This finding corroborates studies that indicate that the combination of complementary instruments can minimize biases inherent to each methodology and offer more reliable support for clinical decision-making.^{6,16}

Figure 3 shows that patients who received morphine had higher mean scores on both scales, reflecting its application in cases of more intense pain. The PAINAD again showed greater sensitivity by better differentiating the mean scores between the types of analgesics. This observation is consistent with other findings in scientific evidence^{6,18}, which highlight the role of morphine in the management of severe pain in palliative care. This reinforces the importance of appropriate analgesic management based on the sensitivity of the tool used for quantitative pain assessment.

In addition to the direct relationship between the use of morphine and higher scores on the PAINAD and Abbey scales, the Abbey scale showed consistently higher averages than PAINAD for both analgesics, suggesting a possible overestimation of pain compared to PAINAD. This can be explained by the inclusion of physiological criteria in the Abbey scale, as already mentioned, such as changes in vital signs, which can be influenced by other clinical factors in addition to the pain itself.¹⁷ The lower differentiation observed between dipyrone and morphine scores in the Abbey scale may indicate lower precision in pain gradation, since this scale tends to generate broader and less discriminating scores.⁵ Clinically, the combination of assessment tools may be a safer approach to avoid both undertreatment and unnecessary administration of opioids in non-communicating palliative patients.¹⁶

The findings of this study therefore suggest that the PAINAD may be the preferred scale for continuous pain monitoring in non-communicating palliative patients, due to its stability and sensitivity for identifying gradual variations in pain. However, the Abbey may be useful for detecting severe pain, especially in patients with physiological comorbidities that can impact scores.^{3,18}

Future research could investigate the effectiveness of combining these scales, as well as the impact of training nursing staff in the correct application of these tools.² In addition, incorporating artificial intelligence to detect behavioural patterns could improve pain assessment, increasing the accuracy of diagnoses.¹⁵ Thus, this study reinforces the need

for a multidimensional approach to pain assessment, ensuring that non-communicating palliative patients receive adequate and humanized pain management.

LIMITATIONS OF THE STUDY

During the stipulated timetable, some limitations were encountered, which meant that the amount of data collected was lower than stipulated, since the research was limited to a specific group of patients. There was a low number of non-communicating palliative care patients hospitalized and family resistance to authorizing data collection for some, as they were in a moment of pain and anguish over the palliative care patient. There was also a bureaucratic delay on the part of the Ethics Committee in authorizing data collection at the hospital, so all these factors contributed to the delay in data collection, and consequently a change in the pre-established timetable, thus jeopardizing the study's final figure.

CONCLUSION

This study analyzed the PAINAD and Abbey scales in the assessment of pain in non-communicating palliative patients, showing differences in sensitivity, stability and clinical applicability. The findings highlight the importance of choosing the right scale, as the interpretation of the scores directly impacts analgesic management and the quality of care provided.

The results showed that although both scales are widely used, PAINAD showed greater stability and sensitivity in capturing subtle variations in pain, especially at the moderate and severe levels, while Abbey showed greater dispersion and may overestimate severe pain in some cases. This finding suggests that the use of Abbey alone may compromise therapeutic accuracy, reinforcing the need for a combined approach for a more assertive assessment.

In view of this, this study reinforces the need for continuous training of nursing professionals in the correct application of the scales, ensuring greater diagnostic accuracy and better targeting of therapeutic strategies. In addition, the implementation of advanced technologies, such as artificial intelligence, can improve the pain detection process and personalize care for these patients.

Finally, we recommend the development of new approaches to pain assessment in palliative patients, including hybrid scales that combine behavioral and physiological criteria, promoting advances in clinical practice and ensuring more effective pain management.

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