



Taibah University

Journal of Taibah University Medical Sciences

www.sciencedirect.com



Original Article

Factors predicting brace noncompliance among idiopathic clubfoot patients treated with the Ponseti method



Ayman H. Jawadi, FRCSI*, Essam M. Al-Abbasi, MBBS and Hani A. Tamim, PhD.

King Saud Bin Abdulaziz University for Health Sciences, King Abdulaziz Medical City, Division of Orthopedic Surgery, Riyadh, KSA

Received 24 April 2015; revised 17 June 2015; accepted 23 June 2015; Available online 28 August 2015

المخلص

أهداف البحث: تهدف هذه الدراسة إلى تحديد درجة امتثال والدي الأطفال المصابين بحنف القدم الذين عولجوا بطريقة "بونستي"، وتحديد العوامل التي قد تنبئ بعدم الالتزام باستخدام الدعامات.

طريقة البحث: تم تقييم عدد من العوامل التي تؤثر على امتثال العائلات للعلاج عن طريق توزيع استبانة على ١٠٨ مريضاً ممن يعانون من حنف القدم في الفترة ما بين ديسمبر ٢٠٠٩م ويناير ٢٠١٢م. تمت دراسة ديموغرافية كل أسرة، والدخل الشهري، والمستوى التعليمي للوالدين، وعدد الأطفال في كل أسرة بالإضافة إلى عوامل أخرى وتحليلها إحصائياً.

النتائج: جميع الـ ١٠٨ مريضاً كانوا يعانون من الدرجة الشديدة من حنف القدم. امتثل والدي ٧٢ (٦٦.٧٪) من المرضى لاستخدام الدعامات مقارنة بـ ٣٦ (٣٣.٣٪) لم يمتثلوا. كانت الإصابة بالحنف أحادي الجانب عامل خطورة مهماً في ما يخص عدم الامتثال مقارنة بالإصابة بالحنف المزدوج. وأظهر الوالدان ذوا ٣ أطفال فأكثر درجة أعلى من عدم الامتثال (٦٦.٧٪) مقارنة بالوالدين ذوي أقل من ٣ أطفال (٣٨.٩٪). كما صرح جميع الوالدين غير الممتثلين لاستخدام الدعامات بأن أطفالهم كانوا يكون عند تطبيقها مقارنة بـ ٢٥٪ من والدي الأطفال الممتثلين. غالبية الوالدين غير الممتثلين (٩٤.٤٪) أبغوا عن مللهم من استخدام الدعامات مقارنة بـ ٢.٨٪ من الممتثلين. لم نجد علاقة ذات أهمية لا بالدخل الشهري ولا بالمستوى التعليمي للوالدين.

الاستنتاجات: تبين أن تعدد الأطفال في الأسرة والحنف أحادي الجانب وعدم استطاعة أحد الوالدين وحده تنبئت الدعامات جميعها كانت عوامل رئيسية مؤدية إلى

عدم الامتثال في استخدام الدعامات. توعية الأسرة بأهمية الدعامات وتشجيعها على استخدام الدعامات قد يكون له الأثر الجيد في تحسين الامتثال في استخدامها.

الكلمات المفتاحية: بونستي؛ الحنف مجهول السبب؛ الامتثال؛ الدعامات

Abstract

Objectives: The purpose of this study was to determine the compliance of parents of children with clubfeet treated with the Ponseti method and to identify factors that may predict brace non-compliance.

Methods: A myriad of factors affecting families' compliance were assessed by administering questionnaires to 108 patients with clubfoot from December 2009 to January 2012. The family's demographic data, including monthly income, educational level of the parents, number of children in the family, and other factors, were studied and statistically analysed.

Results: All 108 patients had severe clubfoot. The parents of 72 (66.7%) patients complied with the use of the brace compared to 36 (33.3%) parents who did not comply. Unilateral clubfoot was a significant risk factor for non-compliant parents compared to bilateral clubfeet ($p = 0.05$). Parents with 3 or more children had more non-compliance (66.7%) compared to those with less than 3 children (38.9%). All non-compliant parents reported that their babies cried during the application of the brace in contrast to 25% of the complaint parents ($p < 0.0001$). The majority of non-compliant parents (94.4%) reported being "fed up" with using the brace compared to 2.8% of the compliant parents. No significant correlation was found between brace use and parents' monthly income or their level of education.

* Corresponding address: King Saud Bin Abdulaziz University for Health Sciences, King Abdulaziz Medical City, Division of Orthopedic Surgery, P.O. Box: 22490, Riyadh 11426, Department Code (1446), KSA.

E-mail: dr.jawadi@gmail.com (A.H. Jawadi)

Peer review under responsibility of Taibah University.



Production and hosting by Elsevier

Conclusion: More children per family, unilateral clubfoot, and the inability of a single parent alone to apply the brace were found to be major risk factors for brace non-compliance. Families' awareness about the importance of the brace and encouragement might improve brace compliance.

Keywords: Brace; Compliance; Idiopathic clubfoot; Ponseti

© 2015 The Authors.

Production and hosting by Elsevier Ltd on behalf of Taibah University. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

Idiopathic clubfoot is one of the most common congenital deformities and is easily diagnosed at birth.¹ The Ponseti method is the most popular method for the treatment of idiopathic clubfoot.² With more careful attention to the technique and casting, many authors have reported satisfactory results.^{1,3,4} The use of a foot abduction brace (FAB) after initial correction is essential to avoid recurrence.¹ The FAB should be worn for 23 h per day in the first 3 months followed by wearing the brace at night-time and during naptime for 3–4 years, as recommended by Ponseti.^{1,5} This requires a significant commitment from the family. Compliance with the brace protocol is crucial, and relapses occur mostly as a result of parental noncompliance.^{7–9} The purpose of this study was to determine the compliance of families of idiopathic clubfoot patients treated with the Ponseti method as well as to identify factors that may be predictive of brace noncompliance.

Materials and Methods

A cross sectional study was carried out at a tertiary centre in Saudi Arabia from December 2009 to January 2012. The institutional review board approved the study. The cases of 108 patients with idiopathic clubfoot who had been treated with the Ponseti method⁵ at King Abdul-Aziz Medical City, Riyadh were reviewed. All patients used the Dennis Browne Brace (DBB). The inclusion criteria were a diagnosis of severe idiopathic clubfoot treated by the Ponseti method and a minimum of 2 years of follow up after the completion of the treatment in the clinic. Non-idiopathic clubfoot and patients who were treated with non-Ponseti methods were excluded from the study. The severity of the foot deformity was classified according to the Pirani score^{1,6} at the time of the presentation. Demographic data (the gender and age of the patient, educational level, income, and the number of children per family) were obtained from the parents during the direct interview in the clinic. The side involvement (unilateral/bilateral), the ability of the parents to contact a treatment team, and the ability of one parent alone to apply the brace were reported.

Compliance

Noncompliance was defined as failure to use the brace for 23 h per day in the first 3 months^{1,5} and for an average of 14 h per day at night-time and during naps.⁷ Information was collected from parents through direct interviews in the clinic asking about the duration of brace use, the clarity of the instructions provided to them by the treatment team, and any difficulty contacting the treatment team with concerns.

Statistical analyses

The Statistical Package for Social Sciences (SPSS) version 20 was used for data entry and analyses. The results were considered to be significant at the level $P < 0.05$.

Results

Family demographic data and doctor-specific information with respect to the brace compliant and noncompliant groups were analysed (Table 1). The study included 58 males (53.7%) and 50 females (46.3%). Fifty-eight patients (53.7%) had unilateral clubfoot, and 50 patients (46.3%) had bilateral clubfoot. All patients had severe clubfoot deformities with Pirani scores of 6/6. The age of 88 patients (81.5%) at the time of the Ponseti treatment was 2 months or less, while 20 patients (18.5%) were more than 2 months old. In 72 patients (66.7%), full compliance with brace use was reported, while 36 patients (33.3%) were noncompliant. There was a significant association between bilateral clubfoot and compliance, where it was found that the compliant patients were more likely to have bilateral clubfeet (55.6%) compared to noncompliant patients (27.8%), p -value = 0.05. On the other hand, the noncompliant parents were more likely to have 3 children or more (66.7%) compared to complaints parents (38.9%), p -value = 0.05. The ability to contact the treatment team (if there was a concern about the brace) was significantly more difficult for 14 noncompliant parents (38.9%) (p -value = 0.04). Other doctor-specific factors were not significantly different between the two groups.

The brace-specific factors with respect to the brace compliant and non-compliant groups were also analysed (Table 2). There is a significant difference (p -value = 0.04) between compliant parents (86.1%) who liked the Ponseti method and non-compliant parents (61.1%). All of the noncompliant parents (100%) reported that their baby cried during brace use compared to 25% of the compliant group, which was a significant difference (p -value < 0.0001). Although none of the compliant parents noticed that their babies were unable to sleep tight at night because of the brace, 30 noncompliant parents (83.3%) mentioned that their babies woke from their sleep due to brace use (p -value = 0.00). The inability of one parent, without any assistance, to fit the brace on his/her baby was significantly more common in the non-compliant group (66.7%) (p -value = 0.007). Thirty-four noncompliant parents (94.4%) were fed up with using the brace, while 2 compliant parents (2.8%) had the same sentiment (p -value = 0.00). Although the majority of parents in both groups (94.4%) agreed that the brace was costly and expensive, there was no significant

Download English Version:

<https://daneshyari.com/en/article/3484281>

Download Persian Version:

<https://daneshyari.com/article/3484281>

[Daneshyari.com](https://daneshyari.com)