IS THE TRADITIONAL KURDISH MALE BELT A PREVENTIVE OF LOW BACK PAIN AND SCIATICA?: A CASE CONTROL STUDY

WAHID M. HASSAN, MBCHB, FIBMS (ORTHO), FISKSAA & FIAS (INDIA)*
SAMIM A AL-DABBAGH, MBCHB, DTM & H, D.PHIL, FFPH**
REDIR T HASSAN, BVMS, MSC, (UK)***
MOHAMMAD TAHIR RASOOL, MBCHB, MRCP, FRCP (UK)****

Submitted 30 October 2019; accepted 15 February 2020

ABSTRACT

Background: Low back pain (LBP) is a common complaint in general practice. There are conflicting reports about the benefit of supportive belts in the treatment and prevention of LBP. The aim of this study is to identify any possible preventive effect of the traditional male Kurdish belt (Sheteck) on LBP and sciatica.

Method: A case-control study was designed. A specially designed questionnaire was developed and filled for participants in Duhok governorate in the Kurdistan region of Iraq. Cases were patients presented with LBP, while control was aged-matched (± 5 years) apparently healthy individuals who had no LBP at least in the previous 10 years. Statistical Package for the Social Sciences (SPSS) was used for data management. Chi-square, Fisher’s exact, was used for calculation of the statistical significance. The mean, standard deviation (±SD), and Odd ratios were used with some clinical and general criteria.

Results: A total of 149 cases and 100 controls were participated in this study. The mean ages of cases and controls were 51.4 (±13.28) and 59.22 (±12.6), respectively. The mean duration of LBP among cases was 5.54 years (±6.17), with 47% of them have pain radiating to the leg, and around 42.9% had involved in the sciatic nerve. None of the controls had LBP or sciatica. The habit of wearing Sheteck was significantly negatively associated (P <0.001) with the absence of LBP with an Odd ratio of 0.23. The study also found that the period and duration of wearing Sheteck per day were significantly longer (P <0.001) in controls in comparison to cases. Finally, the Sheteck was almost completely protective for sciatica among cases.

Conclusion: Traditional Kurdish male belt (Sheteck) is highly protective for LBP and Sciatica.

Keywords: LBP, Sciatica, Supportive belt and Sheteck

Low back pain is a very common health problem worldwide especially in the low and middle-income countries. The LBP may be acute or chronic in nature caused by several medical conditions. The majority of acute low back pain is mechanical in nature due to sprains and strains. Chronic LBP, on the other hand, is most commonly attributed to sciatica, which a radiculopathy condition caused by compression, inflammation and/or injury to the spinal nerve roots. In the USA about half (55%) of LBP cases were due to sciatica. Such patients cannot be involved in leisure and sports activities, in addition to the sleeping disturbances, which lead to anxiety and depression. The LBP has been associated with obesity, aging, posture, lifting heavy material, sudden movements, and psychological...
IS THE TRADITIONAL KURDISH MALE BELT A PREVENTIVE OF LOW BACK

factors. The health care system should develop and provide challenges to educate the patients on the prevention of LBP by reducing weight, special movements in lifting heavy material (squatting), and increase physical activity levels\textsuperscript{9,10}. Recently, psychological factors have been incriminated to contribute to the etiology of LBP\textsuperscript{11,12}. A new study found that the patients were more satisfied if the physiotherapy was combined with psychological support\textsuperscript{9,13}. Different health care treatments have been used, including chiropractic, physiotherapy, complementary, and alternative medicines therapies. People with LBP believed that they would become better and more satisfied with chiropractic therapy, but researchers found that this has not relieved the patient’s pain for a long time\textsuperscript{14,15}. However, chiropractic therapy is considered one of the most popular and comfortable management of LBP disorder in male patients who have high income and those who do not want to use medications for treatment\textsuperscript{1,16}. Supportive belts have been used frequently in the management and prevention of LBP. The results from different studies gave conflicting results for its benefit in relieving and reducing pain or preventing LBP\textsuperscript{17-19}. A traditional Kurdish belt (Sheteck) has been used for generations by males as an accessory for traditional Kurdish clothes. This belt is composed of textile material from 6 to 10 meters with or without nodes. Nowadays, few people are wearing traditional clothes and the belt as new Kurdish generations are affected by the globalization of a new style of fashion.

The aim of this study is to measure any possible preventive effect of traditional male Kurdish belt on LBP and sciatica.

MATERIAL AND METHODS

A case-control study was designed. Scientific and ethical approvals were obtained from the University of Duhok, College of Medicine, and Duhok General Directorate of Health. A total of 149 male cases and 100 controls were collected. The study took place in the orthopedic department of the emergency teaching hospital in Duhok, Kurdistan region of Iraq, between June 2017- June 2019. The cases were patients presented with LBP for more than 6 months. All were examined clinically by a specialist orthopedic surgeon for the presence of sciatica using a straight leg raising test. Controls were selected from relatives accompanied by patients and employees of the hospital. All gave no history of LBP for at least 10 years. The cases were age-matched (± 5 years) with controls. All controls were also examined clinically for sciatica by the same specialist. A specially designed questionnaire was developed and filled for cases and control. In addition to the general information regarding age, occupation, the habit and period, and hours per day of wearing Sheteck were asked. Also, data were collected regarding the duration of the pain, radiation of the pain to the leg, the severity of the pain, and limitation activity. The weight and height were measured for cases and controls for calculation of BMI. All were weighted with a light clothed and with no shoes. Involvement of Sciatica was stated as yes or no in the questionnaire after the clinical examination.
Furthermore, the Sheteck is two types Badinani and Sorani. The Badinani has a textile length of about 7-10 meters with 1-1.5 meters width. The textile then folded into around 5 cm folds and put in layers, usually arranged with nodes, starting from just above the umbilicus going down to the upper margin of the ilio-sacral joint with a width of about 20 cm. (figure 1). The Sorani type of belt is similar but with a shorter textile length not exceeding 6 meters arranged with no nodes and usually wear from umbilicus going down to almost 15 cm. (figure 2).

Statistical Package for the Social Sciences (SPSS) version 22 was used for data management and statistical analysis in both cases and controls. Chis square, Fisher’s exact were used for calculation of the statistical significance. Clinical and general criteria in both cases and controls were presented as mean and standard deviation (±SD). P-value <0.05 was considered significant.

RESULT

A total of 149 cases and 100 controls were selected. The average age for cases was 51.4(± 13.28), which was significantly lower than that of controls 59.22(± 12.6), (p<0.001). Regarding occupation, there were no significant differences between cases and controls. The mean duration of back pain among cases was 5.54 (± 6.17) years, with 47.6%, 44.3% and 8.1% have mild, moderate, and severe pain, respectively. A total of 47% of the cases have the pain radiation to the leg, and 36.9% have the limitation of activity. Around 42.9% of the cases were involved with sciatica. None of the Controls had LBP or sciatica.

The habit of wearing Sheteck was significantly higher (p<0.001) among control than cases. About 57% of cases and 85% of control were in the habit of wearing Sheteck. Moreover, the duration of
wearing Sheteck was also significantly higher among controls than cases both for years of wearing and hours per day ($p<0.001$). Finally, table 1, shows that the BMI was significantly higher among cases in comparison to controls ($p<0.002$). Table 2, shows that the odds ratio for wearing Sheteck was 0.23, which was highly significant ($p<0.001$). Table 3, reveals that the odd ratio of wearing Sheteck among cases with sciatica was 0.038, which was also significant ($p<0.001$).

| Table 1: Demographic and clinical characteristic of the study population |
|-----------------------------------------------|
| **Criteria** | **Cases (149)** | **Control (100)** | **P-Value** |
| Age | 51.4 ± 13.28 | 59.22 ± 12.6 | <0.001 |
| Occupation | Government employee | 35 (23.5%) | 28 (28%) | 0.663 |
| | Military | 30 (20.1%) | 21 (21%) | |
| | Self-employee | 84 (56.4%) | 51 (51%) | |
| Habit of wearing Sheteck | No | 64 (42.9%) | 15 (15%) | <0.001 |
| | Yes | 85 (57%) | 85 (85%) | |
| If Yes | How many years | 29.48 ± 16.43 | 36.88 ± 12.75 | <0.001 |
| | How many hours/ day | 7.19 ± 3.7 | 9.5 ± 2.45 | <0.001 |
| Duration of back pain (years) | 5.54 ± 6.17 | 0 | |
| Radiation of the pain to the leg | Yes | 70 (47%) | 0 | |
| | No | 79 (53%) | 100 | |
| Severity of the pain | Mild | 71 (47.6%) | 0 | |
| | Moderate | 66 (44.3%) | 0 | |
| | Severe | 12 (8.1%) | 0 | |
| Limitation of the activity | Yes | 55 (36.9%) | 0 | |
| | No | 94 (63.1%) | 100 | |
| BMI | 25.87 ± 3.65 | 24.54 ± 2.69 | <0.002 |
| Involvement of sciatica | Yes | 64 (42.9%) | 0 | |
| | No | 85 (57%) | 100 | |

| Table 2. Odds Ratio, Chi-square and P-Value of wearing Sheteck among cases in comparison to controls |
|-----------------------------------------------|
| **Criteria** | **Cases 149** | **Control 100** | **OR** | **$\chi^2$** | **P-Value** |
| Wearing Sheteck | Yes | 85 | 85 | 0.23 | 21.6 | <0.001 |
| | No | 64 | 15 | | | |
**DISCUSSION**

This is a case-control study when recall basis is considered to be the main limitation. Wearing Sheteck is a habit usually remembered by people as it is part of their traditional clothes. This study found that Sheteck was highly protective of LBP and sciatica. This might be due to the support that Sheteck gave. Almost all cases and controls were wearing Sheteck of Badinani type. This type usually has nodes and the length of material is almost double that of the Sorani one. The results are similar to some other studies which showed some protective effect of supporting belt, but the finding of this study showed a highly significant effect for the protection of LBP and sciatica 20, 21.

This study found about 43% of the LBP cases were due to sciatica. Whereas a previous study found 55% of the LBP cases were due to sciatica. About 37% of cases had limitation of movement. Mean age was significantly higher in controls than cases. This will further support the proposed protection of wearing Sheteck, as aging is considered one of the most dependent factors causing chronic LBP due to degeneration of the intervertebral disc. 22

Regarding BMI in cases was significantly higher than controls. Researchers reported that obesity is one of the risk factors for persistent LBP. 23 It has been reported that LBP is also influenced by other factors, which including posture and physical workload 24. In this study, most of the participants in cases were self-employed, including; taxi drivers and workers (about 56.4%); the physical work and posture are highly influencing in LBP. 25

Wearing Sheteck was highly protective for LBP significantly with Odd Ratio about (OR 0.23). Moreover, the Sheteck was also significantly highly protective against sciatica among cases with OR about 0.04. This means that people wearing Sheteck are more than 4 times less liable to develop LBP; while the Sheteck was almost entirely protective from sciatica among cases suffering from LBP. The habit of wearing Sheteck has been present for generations among Kurds. This might have been associated with topography and work in the region. The Kurdish region of Iraq is a mountainous area with villages scattered on mountains and hills. Most of the work among the previous generation was Shepherd and agriculture. Despite the development of roads and the use of cars for transportation, the habit remains among olds as part of their traditional Kurdish clothes. This habit, however, is decreasing in the younger generation due to the globalization of clothes, and its use is limited to celebrations and parties.

In conclusion, the traditional Kurdish belt (Sheteck) is highly protective of LBP and Sciatica.
REFERENCES

1. Eklund, A., Jensen, I., Lohela-Karlsson, M., Hagberg, J., Leboeuf-Yde, C., et al. Nordic Maintenance Care program: Effectiveness of chiropractic maintenance care versus symptom-guided treatment for recurrent and persistent low back pain—A pragmatic randomized controlled trial. PloS one. 2018; 13(9): e0203029. doi:10.1371/journal.pone.0203029

2. Zheng, Y. L., Wang, X. F., Chen, B. L., Gu, W., Wang, X., Xu, B., et al. Effect of 12-Week Whole-Body Vibration Exercise on Lumbopelvic Proprioception and Pain Control in Young Adults with Nonspecific Low Back Pain. Medical science monitor: international medical journal of experimental and clinical research. 2019; 25: 443–452. doi:10.12659/MSM.912047

3. Doualla, M., Aminde, J., Aminde, L. N., Lekpa, F. K., Kwedi, F. M., Yenshu, E. V., et al. Factors influencing disability in patients with chronic low back pain attending a tertiary hospital in sub-Saharan Africa. BMC musculoskeletal disorders. 2019; 20(1): 25. doi:10.1186/s12891-019-2403-9

4. Alnaami, I., Awadalla, N. J., Alkhairy, M., Alburidy, S., Alqarni, A., Algarni, A., et al. Prevalence and factors associated with low back pain among health care workers in southwestern Saudi Arabia. BMC musculoskeletal disorders. 2019; 20(1): 56. doi:10.1186/s12891-019-2431-5

5. Mehling, W.E., Avins, A. L., Acree, M. C., Carey, T. S., & Hecht, F. M. Can a back pain screening tool help classify patients with acute pain into risk levels for chronic pain? Eur J Pain. 2015; 19(3): 439–446. doi:10.1002/ejp.615

6. Edwards, J., Hayden, J., Asbriddle, M., & Magee, K. The prevalence of low back pain in the emergency department: a descriptive study set in the Charles V. Keating Emergency and Trauma Centre, Halifax, Nova Scotia, Canada. BMC Musculoskeletal Disorders, 2018, doi.org/10.1186/s12891-018-2237-x

7. Konstantinou, K., Dunn, K. M., Ogollah, R., Lewis, M., van der Windt, D., Hay, E. M., et al. Prognosis of sciatica and back-related leg pain in primary care: the ATLAS cohort. The spine journal: official journal of the North American Spine Society. 2018; 18(6); 1030–1040. doi:10.1016/j.spinee.2017.10.071

8. Boote, J., Newsome, R., Reddington, M., Cole, A., & Dimairo, M. Physiotherapy for Patients with Sciatica Awaiting Lumbar Micro-discectomy Surgery: A Nested, Qualitative Study of Patients’ Views and Experiences. Physiotherapy research international: the journal for researchers and clinicians in physical therapy. 2017; 22(3): e1665. doi:10.1002/pri.1665

9. Shipton E. A. Physical Therapy Approaches in the Treatment of Low Back Pain. Pain and therapy. 2018; 7(2): 127–137. doi:10.1007/s40122-018-0105-x

10. Wong, A. Y., Karppinen, J., & Samartzis, D. Low back pain in older adults: risk factors, management options and future directions. Scoliosis
16. Sanders, T., Foster, N. E., Bishop, A., & Ong, B. N. Biopsychosocial care and the physiotherapy encounter: physiotherapists’ accounts of back pain consultations. BMC musculoskeletal disorders. 2013; 14: 65. doi:10.1186/1471-2474-14-65

12. Godfrey, E., Galea Holmes, M., Wileman, V., McCracken, L., Norton, S., Moss-Morris, R., et al. Physiotherapy informed by Acceptance and Commitment Therapy (PACT): protocol for a randomised controlled trial of PACT versus usual physiotherapy care for adults with chronic low back pain. BMJ open. 2016; 6(6): e011548. doi:10.1136/bmjopen-2016-011548

13. Karstens, S., Kuithan, P., Joos, S., Hill, J. C., Wensing, M., Steinhäuser, J., et al. Physiotherapists’ views of implementing a stratified treatment approach for patients with low back pain in Germany: a qualitative study. BMC health services research. 2018; 18(1): 214. doi:10.1186/s12913-018-2991-3

14. Lyons, K. J., Salsbury, S. A., Hondras, M. A., Jones, M. E., Andresen, A. A., & Goertz, C. M. Perspectives of older adults on co-management of low back pain by doctors of chiropractic and family medicine physicians: a focus group study. BMC complementary and alternative medicine. 2013; 13: 225. doi:10.1186/1472-6882-13-225

15. Khan, Y., Lawrence, D., Vining, R., & Derby, D. Measuring biopsychosocial risk for back pain disability in chiropractic patients using the STarT back screening tool: a cross sectional survey. Chiropractic & Manual Therapies. 2019; doi.org/10.1186/s12998-018-0228-5

18. Lariviére, C., Caron, J. M., Preuss, R., & Mecheri, H. The effect of different lumbar belt designs on the lumbopelvic rhythm in healthy subjects. BMC musculoskeletal disorders. 2014; 15: 307. doi:10.1186/1471-2474-15-307

19. Calmels P, Queneau P, Hamonet C, Le Pen C, Maurel F, Lerouvreur C, et al. Effectiveness of a Lumbar Belt in Subacute Low Back Pain: An Open, Multicentric, and Randomized Clinical Study. Spine (Phila Pa 1976). 2009;DOI: 10.1097/BRS.0b013e31819577dc

20. Rostami M, Noormohammadpour P, Sadeghian AH, Mansournia MA, & Kordi R. The effect of lumbar support on the ultrasound measurements of trunk muscles: a single-blinded randomized controlled trial. PM R.
17

Molimard, J., Bonnaire, R., Han, W. S., Convert, R., & Calmels, P. In-silico pre-clinical trials are made possible by a new simple and comprehensive lumbar belt mechanical model based on the Law of Laplace including support deformation and adhesion effects. PloS one. 2019; 14(3): e0212681. doi:10.1371/journal.pone.0212681

Vo, N. V., Hartman, R. A., Patil, P. R., Risbud, M. V., Kletsas, D., Iatridis, J. C., et al. Molecular mechanisms of biological aging in intervertebral discs. Journal of orthopaedic research: official publication of the Orthopaedic Research Society. 2016; 34(8): 1289–1306. doi:10.1002/jor.23195

Hashimoto, Y., Matsudaira, K., Sawada, S. S., Gando, Y., Kawakami, R., Kinugawa, C. et al. Obesity and low back pain: a retrospective cohort study of Japanese males. Journal of physical therapy science. 2017; 29(6): 978–983. doi:10.1589/jpts.29.978

Hopayian K, Notley C. A systematic review of low back pain and sciatica patients’ expectations and experiences of health care. Spine J. 2014.

Hagiwara, Y., Yabe, Y., Yamada, H., Watanabe, T., Kanazawa, K., Koide, M. et al. Effects of a wearable type lumbosacral support for low back pain among hospital workers: A randomized controlled trial. Journal of occupational health. 2017; 59(2): 201–209. doi:10.1539/joh.16-0203-OA
پوخته
گریت؟ لیکولینا بوبهره و کنترول

پیشنهاید
لیکولینا بوبهره (LBP) نیشانی پشتی (Sciatica) همیشه دو ریگریتی نیشانی پشتی و نیشاندنان نیشانی پشتی بولنگی

شیوع و نخست‌گذاری
لیکولینا بوبهره و کنترولی نیشانی دیابتیک. بررسی‌نامه‌ها کا نتیجه‌های انقباضی رفتاری و برون ت بیشکارا ل
یابیده که هر یک کودکان با عصبیت. لیکولینا بوبهره، نیشانی همیشه نخوشن. نرخ‌های نیشانی زیگرنشین بکرتوپلی
5 سالا بهبود یافته بر اساس بن. نرخ 10 سالان برخی بیشتر نیش نبود. باکتی‌زا واردی
زیو رانیاری جفت که (SPSS) همانی باکتری‌های زیو ریکسنتنا داتایا. جارگوشنا جایی و ریزی فیلر. همانی باکتری‌های زیو
dیابتی‌های باکتری‌های زیو همه‌نگانه پیفاندین کلینیکی و گشتی.

دهره‌نگاشت
ب گشتی 149 بوبهره و 100 کنترول لسر فی لیکولینا به‌شماربند. نافذینیا نه مه‌نمای بوبهره 51.4 (±13.28) و کنترو
لوا 59.22 (±12.6). نافذینیا سالیان بهتر د بوبهره 5.54 (±6.17) سالیان. دگه‌نش روزان نیش بکرتوپلی
و دیگرگونه 42.9% ده‌مایا مه‌نماییا و یا بولنگی زیو کنترولی نیشانی پشتی و نیشاندنان پشتی بولنگی
نه‌بود. هنری‌سرا دایزی‌پویشونی شیکی‌ها گرگنه ب پیفانه (P<0.001) B نیشانی کرکرترا پشتی ب نیشانی (OR)
हمتوسیا دبی لیکولینوا همنی دین کو زمانی و ده‌مین گرگنه‌رویی شیکی‌روزه‌ایا گرگنه‌رو و دریزتره ب پیفانه (P

100<1) ل کنترولولا دبی‌بیا د بوبهره‌ایا هم‌هناها به شاماییا بارزیستی بیوور نیشانیا بولنگی (Sciatica)

ثبت
لیکولینا قانونی‌شکافه‌شیپ‌سیبی‌میروی‌کودره (شیکی) لسر نیشانی پشتی (LBP) نیشانی پشتی و نیشاندنان بولنگی

ب ببارزه.
IS THE TRADITIONAL KURDISH MALE BELT A PREVENTIVE OF LOW BACK

The traditional Kurdish male belt as a preventive of low back and neck pain: A case-control study

Executive Summary

Low back pain is a common problem in general practice, and there are conflicting reports about the effectiveness of supportive belts in the prevention and treatment of low back pain. The aim of this study was to determine the preventive effect, if any, of the traditional Kurdish male belt in the prevention of low back pain and neck pain.

Patients and Methods

This was a case-control study. A specially designed questionnaire was developed and administered to patients in Duhok province, Iraqi Kurdistan. The cases were patients suffering from low back pain, while the controls were healthy individuals of similar age (±5 years) without any history of low back pain in the past 10 years. The statistical software for social sciences was used to manage the data, and the chi-squared test was used to calculate the statistical significance. The mean, standard deviation, and frequency were also used to compare some clinical and general indicators.

Results

A total of 149 cases and 100 controls participated in this study. The average age of cases and controls was 51.4 ± 13.28 years and 59.22 ± 12.6 years, respectively. The average duration of low back pain among cases was 5.54 ± 6.17 years, with 47% of cases experiencing pain extending to the leg. None of the controls had any history of low back pain or neck pain. Wearing the belt was significantly associated (P < 0.001) with the absence of low back pain and an individual frequency of 0.23. The study also found that the duration and frequency of belt wearing among controls were significantly longer (P < 0.001) than among cases.

Conclusions

The traditional Kurdish male belt is a very effective preventive for low back and neck pain.

Keywords: Low back pain and neck pain, Supportive belt (Sheik).

الخلاصة

هل حزام الذكور الكردي التقليدي هو وقائي من آلام أسفل الظهر وعرق النسا؟: دراسة الحالة والشاهد

خلفية البحث

آلام أسفل الظهر هي شكل شائع من الممارسة العامة، هناك تقارير متناقضة حول فائدة الأحزمة الداعمة في العلاج والوقاية من آلام أسفل الظهر. الهدف من هذه الدراسة هو تحديد أي تأثير وقائي محتمل للحزام الكردي التقليدي في آلام أسفل الظهر وعرق النسا.

المرضى وطرق البحث

تم تصميم دراسة مراقبة الحالة والشاهد. تم تطوير وملء استبيان مصمم خصيصاً للمشاركين في محافظة دهوك في إقليم كردستان العراق. الحالات كانوا المرضى الذين يعانون من آلام أسفل الظهر، في حين أن الضوابط كانت أعمارهم مثابقة (± 5 سنوات) وكانوا بدون صعوبات وليس لديهم آلام أسفل الظهر على الأقل في السنوات الـ10 الماضية. تم استخدام الحزمة الإحصائية للعلوم الإجتماعية لإدارة البيانات. وتم استخدام مربع تشي، معيار فيشر لحساب الأهمية الإحصائية، واستخدام المتوسط، الإنحراف المعياري والنسبة الفردية مع بعض المعايير السريرية والعمية.

النتائج

شارك مجموع 149 حالة و100 من الضوابط في هذه الدراسة. كان متوسط عمر الحالات والضوابط 51.4 (± 13.28) و 59.22 (± 12.6) على التوالي. وكان متوسط مدة آلام أسفل الظهر بين الحالات 5.54 سنة (± 6.17)؛ مع 47% من لديهم لم يمضى إلى الساق وحوالي 42.9% في العصب الوركي. لم يكن أي من الضوابط لديهم آلام أسفل الظهر أو عرق النسا. عادة ارتداء الحزام ارتبطت بشكل ملموس (P<0.001) مع عدم وجود آلام أسفل الظهر ومعدل فردي قدره (0.23). ووجدت الدراسة أيضا أن فترة ومدة ارتداء الحزام التقليدي في عناصر الضوابط مقارنة بالحالات كانت أطول بكثير (0.001).

الاستنتاجات

يعتبر حزام الذكور الكردي التقليدي وقائياً للغاية لآلام أسفل الظهر وعرق النسا.

كلمات البحث: آلام أسفل الظهر وعرق النسا، حزام داعم (شيلك).
