UNIVERSITI SAINS MALAYSIA
GERAN PENYELIDIKAN UNIVERSITI
PENYELIDIKAN
LAPORAN AKHIR

THE EFFICACY OF TUALANG HONEY AS WOUND DRESSING OF FULL-THICKNESS WOUND IN ANIMAL MODEL

PENYELIDIK

DR. WAN AZMAN WAN SULAIMAN

PENYELIDIK BERSAMA

PROF. DR. AHMAD SUKARI HALIM
PROF. MADYA DR. HASNAN JAAFAR
DR. ARMAN ZAHARIL MAT SAAD
EN. LAU HUT YEE
WAN RATMAAZILA WAN MAKHTAR

2012

UNIVERSITI SAINS MALAYSIA

LAPORAN AKHIR PROJEK PENYELIDIKAN JANGKA *PENDEK*

FINAL REPORT OF SHORT TERM RESEARCH PROJECT

Sila kemukakan laporan akhir ini melalui Jawatankuasa Penyelidikan di Pusat Pengajian dan Dekan/Pengarah/Ketua Jabatan kepada Pejabat Pelantar Penyelidikan

1. **Nama Ketua Penyelidik: Prof Madya Dr. Abdul Razak bin Sulaiman**
   Name of Research Leader

   ☑ Profesor Madya/ *Assoc. Prof.* ☐ Dr./ *Dr.* ☐ Encik/Puan/Cik *Mr/Mrs/Ms*

2. **Pusat Tanggungjawab (PTJ):**
   School/Department

School of Medical Sciences, Health Campus, Universiti Sains Malaysia

3. **Nama Penyelidik Bersama:**
   Name of Co-Researcher Prof Nik Mohamed Zaki Nik Mahmood, Dr ismail Munajat, Dr Noreen Norfaraheen Lee Abdullah,Dr Noraida Ramli, Dr Yaakob Abbas

4. **Tajuk Projek:** *Title of Project* **Comprehensive Neonatal Screening of developmental Dysplastic of Hip in Babies Delivered with Breech Presentation**

5. **Ringkasan Penilaian**/*Summary of Assessment*:	Tidak Mencukupi *Inadequate*		Boleh Diterima *Acceptable*	Sangat Baik *Very Good*	
	1	2	3	4	5
i) **Pencapaian objektif projek:** *Achievement of project objectives*	☐	☐	☐	☑	☐
ii) **Kualiti output:** *Quality of outputs*	☐	☐	☑	☐	☐
iii) **Kualiti impak:** *Quality of impacts*	☐	☐	☑	☐	☐
iv) **Pemindahan teknologi/potensi pengkomersialan:** *Technology transfer/commercialization potential*	☐	☐	☑	☐	☐
v) **Kualiti dan usahasama :** *Quality and intensity of collaboration*	☐	☐	☐	☐	☑
vi) **Penilaian kepentingan secara keseluruhan:** *Overall assessment of benefits*	☐	☐	☑	☐	☐

6. **Abstrak Penyelidikan**
(Perlu disediakan di antara 100 - 200 perkataan di dalam **Bahasa Malaysia dan juga Bahasa Inggeris.** Abstrak ini akan dimuatkan dalam Laporan Tahunan Bahagian Penyelidikan & Inovasi sebagai satu cara untuk menyampaikan dapatan projek tuan/puan kepada pihak Universiti & masyarakat luar).

Abstract of Research
(An abstract of between 100 and 200 words must be prepared in Bahasa Malaysia and in English). This abstract will be included in the Annual Report of the Research and Innovation Section at a later date as a means of presenting the project findings of the researcher/s to the University and the community at large)

Introduction: We conducted this study to compare the specificity and sensitivity of the Ortolani and Barlow tests performed by dedicated examiners with routine ecxaminer, and to ascertain the incidence of developmental dysplasia of the hip (DDH) in breech babies. ***Methods:*** A dedicated examiner underwent specific training and testing by a paediatric orthopaedic surgeon. Routine examiners were medical officers who had basic training in medical school and were briefly trained by their superiors. The dedicated examiner examined 170 babies. Thirty babies including 5 babies with positive tests (according to the dedicated examiner) were examined by a blinded routine examiner. Results of Ortolani and Barlow tests on 30 babies were compared with ultrasound examination by blinded radiologist. ***Results:*** Five babies had positive Ortolani and Barlow tests. The routine examiner did not detect positive Ortolani and Barlow tests. ***Conclusion:***The incidence of positive Ortolani and Barlow tests among breech babies was 2.8%. Result of Ortolani and Barlow tests by dedicated hip screener were better than results performed by routine examiner.

Pengenalan: Kami telah menjalankan kajian untuk memebandingkan spesifisiti dan sesitiviti ujian Otolani and Barlow yang dilakukan oleh pemeriksaan khusus dan pemeriksa biasa. Ia juga nertujuan mencari insiden 'developmental dysplasia of hip' (DDH) dikalangan bayi yang berkedudukan songsang semasa lahir.
Metodologi: Pemeriksa khas menjalani latihan spesifik kemudian memeriksa 170 bayi yang dilahirkan songsang. Dari jumlah tersebut 30 bayi telah dibandingkan dengan pemeriksa biasa dan disahkan dengan pemeriksaan ultrasound sebagai 'gold standard'.
Keputusan: Insiden ujian positif Ortolani dan Barlow pada bayi songsang adalah 2.8%. Keputusan ujiian ortolani dan barlow oleh pemeriksa khas adalah lebih baik berbanding pemeriksa biasa.

7. **Sila sediakan laporan teknikal lengkap yang menerangkan keseluruhan projek ini. [Sila gunakan kertas berasingan]**
Applicant are required to prepare a Comprehensive Technical Report explaning the project. (This report must be appended separately)

Senaraikan kata kunci yang mencerminkan penyelidikan anda:

List the key words that reflects your research:

Ortolani dan Barlow, dedicated examiner, routine examiner, breech, ultrasound

---

(b) **Faedah-faedah lain seperti perkembangan produk, pengkomersialan produk/pendaftaran paten atau impak kepada dasar dan masyarakat.**
State other benefits such as product development, product commercialisation/patent registration or impact on source and society.

- *DI CADANGKAN SUPAYA DOKTOR YANG MEMERIKSA SENDI PINGGUL BAYI DILATIH DENGAN SEMPURNA. PENGGUNAAN MODEL UNTUK LATIHAN ADALAH DICADANGKAN.*
- *KAEDAH YANG SAMA PERLU DIGUNAKAN PADA SKILL LAB UNTUK PENGAJARAN PELAJAR PERUBATAN*

* Sila berikan salinan/*Kindly provide copies*

(c) **Latihan Sumber Manusia**
Training in Human Resources

i) Pelajar Sarjana: Dr Zakaria Yusot
Graduates Students
(Perincikan nama, ijazah dan status)
(Provide names, degrees and status)

M-Med (Ortho) - graduated

ii) Lain-lain:
Others

9. **Peralatan yang Telah Dibeli:**
~~*Equipment that has been purchased*~~

PAVLIK HARNESS

Komen Jawatankuasa Penyelidikan Pusat Pengajian/Pusat
Comments by the Research Committees of Schools/Centres

The research project was been completed successfully and all objectives achieved.

The output include a M.Med Conkop) dissertation and a published paper in Malaysian Orthopaedic Journal 2011.

This report has been assessed by an independent assessor and approved by the PTJ PHD committee

BORANG LAPORAN HASIL PENYELIDIKAN
PPSP

Tajuk geran: **Comprehensive Neonatal Screening of developmental Dysplastic of Hip in Babies Delivered with Breech Presentation**
Penyelidik: Abdul Razak bin Sulaiman (Prof Nik Mohamed Zaki Nik Mahmood, Dr ismail Munajat, Dr Noreen Norfaraheen Lee Abdullah, Dr Yaakob Abbas
Jenis geran: USM short term grant
Tempoh geran: 15/10/ 2006 - 15/10/2008 – 14/10/2009 (extension)

Jenis laporan: Laporan Kemajuan ☐ Alatan di beli ☐ Ya:nyatakan.....
Laporan Akhir*: ☑ ☐ Tidak

OBJEKTIF SPESIFIK KAJIAN (sama spt dalam proposal asal)	**SECARA RINGKAS TERANGKAN PENCAPAIAN/HASIL**	**OBJEKTIF TERCAPAI ATAU TIDAK**
1. To compare the ability of dedicated examiner and routinr examiner in detecting positive ortolani and barlow test in breech babies base on ultrasound as gold standard	Result of Ortolani and Barlow tests by dedicated hip screener were better than results performed by routine examiner.	tercapai
2. To determine the incidence of positive Ortolani and aBarlow test in breech babies	The incidence of positive Ortolani and Barlow tests among breech babies was 2.8%.	tercapai
3. To determine association of gender and mode of delivery with DDH	Gender does not contribute to the risk of DDH in breech babies	tercapai

- *Laporan Akhir perlu disertakan salinan manuskrip dan surat yang dihantar kepada mana-mana jurnal untuk penerbitan.*

Developmental Dysplasia of Hip Screening Using Ortolani and Barlow Testing on Breech Delivered Neonates

AR Sulaiman, M Med Orth, **Zakaria Yusof*,** M Med Orth, **I Munajat,** M Med Orth,
NAA Lee,** M Med Rad, **Nik Zaki***,** M Med O&G

Department of Orthopaedics, School of Medical Sciences, Health Campus,
Universiti Sains Malaysia, Kota Bharu, Kelantan
*Department of Orthopaedics, Hospital Raja Perempuan Zainab II, Kota Bahru, Kelantan
**Department of Radiology, School of Medical Sciences, Health Campus,
Universiti Sains Malaysia, Kota Bharu, Kelantan
***Department of Obstetric and Gynaecology, School of Medical Sciences,
Health Campus, Universiti Sains Malaysia, Kota Bharu, Kelantan

ABSTRACT

Introduction: We conducted this study to compare the specificity and sensitivity of the Ortolani and Barlow tests performed by dedicated examiners, and to ascertain the incidence of developmental dysplasia of the hip (DDH) in breech babies. ***Methods:*** A dedicated examiner underwent specific training and testing by a paediatric orthopaedic surgeon. Routine examiners were medical officers who had Vdf\ training in medical school and were briefly trained by their superiors. The dedicated examiner examined 170 babies. Thirty babies including 5 babies with positive tests (according to the dedicated examiner) were examined by a blinded routine examiner. Results of Ortolani and Barlow tests on 30 babies were compared with ultrasound examination by blinded radiologist. ***Results:*** Five babies had positive Ortolani and Barlow tests. The routine examiner did not detect positive Ortolani and Barlow tests. ***Conclusion:*** The incidence of positive Ortolani and Barlow tests among breech babies was 2.8%. Result of Ortolani and Barlow tests by dedicated hip screener were better than results performed by routine examiner.

Key Words:
Ortolani and Barlow, Dedicated Examiner, Routine Examiner, Breech, Ultrasound

INTRODUCTION

Barlow provocative manoeuvres attempt to identify a dislocatable hip adduction of the flexed hip with gentle posterior force while Ortolani manoeuvres attempt to relocate a dislocated hip by abduction of the flexed hip with gentle anterior force [1,2]. Neonatal clinical screening method using the Ortolani and Barlow test is intended to decrease the rate of late detection of developmental dysplasia of the hip (DDH), however systemic literature review did not show a consistent benefit in this regard [3]. Therefore few screening protocols suggested in the literature include clinical examination by few examiners or ultrasound screening. On the other hand, repeated or forceful Ortolani and Barlow may lead to hip dislocation[4], while performing ultrasound screening on every baby would be associated with high cost and unnecessary treatment [5]. Others propose ultrasound in selected high-risk babies. This is still not possible in some centers due to financial constraints and problems with availability of an expert radiologist.

Ortolani and Barlow testing has been shown to have higher sensitivity when used by experienced examiners [6,7]. We conducted this study to assess the difference in efficacy between trained examiners and routine examiners in performance of clinical neonatal hip screening. We used a sample of breech babies since breech babies are known to have higher incidence of DDH. This also represented an opportunity to study the pattern of DDH occurring in breech babies in our population.

MATERIALS AND METHODS

This was a cross-sectional study, conducted at Raja Perempuan Zainab II (HRPZ II), Kota Bharu and Hospital Universiti Sains Malaysia (HUSM), Kubang Kerian, Kelantan and was approved by Ethical Committee of both institutions. Full term babies with breech presentation regardless of mode of delivery were included in the study. Babies with neuromuscular disorder, myelodysplasia or arthrogryposis were excluded from the study.

Before the study took place, a dedicated examiner (DE) was trained to perform the Ortolani and Barlow test by an experienced Paediatric Orthopaedic Surgeon (POS) on 10 babies. The POS and DE later separately performed the same test on 30 babies. They obtained similar findings.

Corresponding Author: Abdul Razak Sulaiman, Department of Orthopaedics, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kota Bharu, Kelantan, Malaysia Email: abdrazak@kb.usm.my