

# IMPROVING PHYSICAL THERAPISTS ADHERENCE TO CLINICAL PRACTICE GUIDELINES IN PATIENTS WITH LOW BACK PAIN

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# Background

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- Two implementation cycles of CPG-LBP were performed at the AUBMC as CQI activity
- Translated and adopted Dutch CPG-LBP
- Selected because they scored the highest on AGREE instrument

# Background

- First cycle results showed that adoption of guidelines is feasible
- Physiotherapists' adherence was 90% in the assessment process and 42% in the treatment process
- Identified barriers to full adherence:
  - Lack of physiotherapists knowledge
  - Physicians' prescription of non evidence- based treatment modalities
  - Patients' expectations of care based on physicians' prescription

(Maroun 2010)

# Diagnosis

## Low back pain



Non-specific low back pain

Specific LBP → Contact referring physician



## Referral

- Reasons for referral
- Patient's needs
- Previous courses of disability
- Information on additional diagnostic procedures and prognosis



## History-taking

- patient's needs, expectations and complaints
- identify the onset of the complaints
- evaluate the course of the condition over time
- determine coping strategy
- note additional information

## **Examination**

- Identify factors that may either hamper or facilitate treatment
- Assess the patient's level of physical fitness
- The starting points are the disabilities and problems with participation that were identified during history-taking

**Normal course:** functions, activities and participation are increasing over time

**Abnormal course:** functions, activities and participation will not return to normal levels within three weeks

## **Analysis**

- Main impairments, disabilities and participation problems
- Normal or abnormal course
- Hampering factors that maintain the complaints
- Questions:
  - Is the health problem a non-specific low back pain?
  - Is physical therapy indicated? → No → Contact referring physician

## **Treatment plan**

- Normal course: one treatment session, to coach the patient (to increase awareness and understanding)
- Abnormal course: the provision of appropriate information and advice
- The main goals of the treatment plan are to return gradually to a full level of activity and to prevent recurrences and the development of chronic complaints

# THERAPY

## ***Normal course***

### *Main goal:*

- Increase awareness and understanding (how to cope adequately with the complaints)
- One treatment session.
- Physical therapist will give information and advice
- **Closing off treatment process**

## ***Abnormal course***

### *Main goals:*

- Increase awareness and understanding
- Improve relevant physical functions
- Increase the level of activity and participation
- Promote an adequate coping style
- Main exercises:
  - Give information and advice
  - Training relevant functions and activities
  - Evaluation of the effects of the Intervention
- **Closing off treatment process**

# Objectives

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- Assess the effectiveness of the second implementation cycle on knowledge, clinical decision making and PT adherence to the CPG-LBP
- Measure the outcome and satisfaction of patients
- Compare the results of the 2 cycles

# Method

- Second implementation cycle lasted eight months
- Focus-PDCA cycle method was used as part of the CQI process
- Activities:
  - 1- Implementation activity: train PTs, share CPG-LBP with physicians, educate patients
  - 2- Assessing the impact of implementation process: select QIs, develop a competency test, develop a pt feedback and satisfaction questionnaire
  - 3- Data collection and analysis



# Implementation activities

- Train all 9 physiotherapists in 3 one-hour sessions : deficiencies related to understanding expected duration of pain, differentiating between specific and non specific LBP
- Share CPG with family physicians and orthopedic surgeons during one hour session to each group
- Educate patients by providing written and verbal information about diagnostic and therapeutic modalities of treatment as per guideline recommendations

# Assessing the impact of the implementation process

- Selection of QIs for adherence to CPG-LBP: 8 QIs for the diagnostic process, 3 for therapeutic process and 2 for the outcome of care
- QBPDS (0- 100; MCIC= 20 points)
- NRS-P (0-10; MCIC= 2 points)

# Assessing the impact of the implementation process

- Development of a competency test:
- Definition of 12 recommendations retrieved from CPG-LBP
- Four case descriptions were retrieved from the literature

# Assessing the impact of the implementation process

- Patient feedback and satisfaction questionnaire:
- A self-appraised questionnaire with three statement/questions
- Questionnaire was validated
- Translated to Arabic
- Agreement between Arabic and English versions showed high correlation on Spearman's test (0.95)

# Data collection and analysis

- Adherence to quality indicators:
  - Patient files were audited by two independent researchers (correlation 0.98 on Spearman's test)
  - Results between 2 cycles were compared using Chi square and a p value  $\leq 0.05$  considered statistically significant
  - Difference between pre and post-treatment scores for pain and functioning for each patient was calculated
  - Mean difference scores for all patients were calculated and compared to the defined standard MCIC related to each outcome

# Data collection and analysis

- Competency test: conducted after the education session. Scores calculated based on the percentage of the number of correct items per case
- Patient feedback and satisfaction: Questionnaires distributed at the end of the treatment period

# Results

- Physiotherapists characteristics: n=9
  - Age: 24-58 yrs. Mean 39 yrs (SD±11.7)
  - Work experience: 3-30 yrs. Mean 16 yrs (SD±10.2)
  - Four/ nine therapists were specialized in rehabilitation of musculoskeletal conditions
  - Two of the specialized in spine related injuries

# Results

- Adherence to CPG-LBP
  - Referral of 58 patients complaining of LBP
  - 14 patients diagnosed for specific LBP (excluded)
  - 44 patients diagnosed and treated for non specific LBP
  - Age: 19-90 yrs. Mean 47.3 yrs (SD±18.7)
  - Ten patients were older than 55 yrs
  - Females: 59%
  - One pt in acute phase, two sub-acute, 41 chronic, among them 13 had identified yellow flags
  - Patients were distributed almost equally over physiotherapists (4 or 5)



<b>Diagnostic assessment process</b>	<b>1<sup>st</sup> implementation</b>		<b>2<sup>nd</sup> Implementation</b>		<b>P Value</b>
<b>(QI n=8)</b>	<b>n</b>	<b>(%)</b>	<b>n</b>	<b>(%)</b>	
Assessment of pain duration	23	(100)	44	(100)	ns
Identification of red and yellow flags	23	(100)	44	(100)	ns
Identification of patient's coping strategy	22	(96)	39	(88)	ns
Identification of impairments of neuromusculoskeletal functions	22	(96)	39	(88)	ns
Identification of activities limitation	15	(65)	38	(86)	ns
Identification of participation problems	21	(91)	41	(93)	ns
Initial Assessment of functioning based on QBPDS	17	(74)	41	(93)	ns
Initial assessment of intensity of pain on NRS-P	23	(100)	41	(93)	ns
<b>Overall percentage of adherence for the diagnostic phase</b>		<b>(90)</b>		<b>(93)</b>	<b>ns</b>
<b>Treatment process (QI n=3)</b>					
Exercises and physical activities only	4	(8)	38	(86)	*
Advice to stay physically active	23	(100)	29	(65)	*
Providing ≤ 3 sessions	4	(17)	18	(40)	ns
<b>Overall percentage of adherence for the treatment phase</b>		<b>(42)</b>		<b>(64)</b>	<b>*</b>

Outcome of Care (QI n= 2)	1 <sup>st</sup> implementation		2 <sup>nd</sup> Implementation		P Value
	n	(%)	n	(%)	
Final assessment of functioning based on QBPDS	-	-	25 (56)		
Final assessment of intensity of pain on NRS- P	-	-	34 (77)		
Overall percentage of adherence for the outcome of care		-		(67)	

# Results

- 25 patients (56%) assessed on QBPDS
- Mean difference between baseline and end of treatment was 27.9 (SD±21.1)
- 34 patients (77%) assessed on NRS-P showed a mean difference of 4.6 points (SD±2.2)
- 18 pts received  $\leq 3$  sessions
- 13 yellow flags received a mean of 10 sessions
- Mean number of sessions decreased to 5.1 (SD±4.0) compared to 8 in the first cycle but not statistically significant

# Results

- Share CPG-LBP with physicians
- 1- Family physicians referred 22 patients (n=17 NSLBP and n=5 SLBP)
  - Prescribed number of sessions and treatment modalities for 4/17 pts (23%)
  - Encouraged 13 (76%) to follow PT's decision
- 2-Orthopedic surgeons referred 36 patients (n=27 NSLBP and n=9 SLBP)
  - Prone to prescribe non evidence- based physical modalities in 12 pts (44%)

# Percentages of correct definitions

- Duration of pain 66%
- Red flags 88%
- Yellow flags 100%
- Patient coping strategy 88%
- Impairments of neuromuscular functions 88%
- Disabilities/Activity limitation 100%
- Participation restriction 88%
- Time contingent plan 66%

# Percentages of correct definitions

- Clinical triage 66%
- Specific low back pain 66%
- Non specific low back pain 77%
- Normal course 77%
- ✓ Mean percentage of correct definitions 80.8%  
(SD±12.9)
- ✓ Mean percentage of correct decision making in  
cases description 60.5% (SD±22.8)

# Percentages of the competency test reflecting the ability of physiotherapists in clinical decision- making. Average percentage of correct decisions (n=9). Jette Diane (2006)

## □ **Case Description 1: (6/9) 66% correct answers**

A 40-year-old woman, who is healthy but inactive, complains of sudden onset of low back pain after slipping off a curb and nearly falling. The pain increases with movement and is relieved with lying down. There is no motor or sensory loss.

The patient reports some moderate muscular tenderness to palpation in the thoracic area on the right side.

## □ **Case Description 2: (5/9) 55% correct answers**

A 55-year-old woman complains of constant, intense aching back pain subcostally on the right side over the past 2–3 days. The pain radiates along the iliac crest on the right side. She cannot identify a precipitating incident or injury. The pain is not affected by positional changes or the use of a heating pad.

## □ **Case Description 3: (3/9) 33% correct answers**

A 70-year-old man complains of a dull, aching, constant thoracolumbar pain that has been increasing over the past 2 days. The pain is aggravated by general activity, but no particular posture or movement of the trunk increases or decreases the pain more than another. Pain is not radiating, and no sensory or motor changes are noted.

## □ **Case Description 4: (8/9) 88% correct answers**

A 45-year-old man complains of mild-to-moderate, deep thoracic back pain that is preventing his sleeping at night. The pain is intermittent but has increased over the past 2 weeks and is not relieved by positional changes. It seems to be worse at night than during the day. The patient complains of fatigue that he attributes to not sleeping well.

# Percentages of patients' agreement and satisfaction questionnaire (n=44)

Statement/ Questions	Percentages of agreement and satisfaction
1. My therapist gave me satisfying explanations about my back condition in relation to my daily activities	85%
1. All things considered, how satisfied are you with the results of your treatment?	72%
1. All things considered, how do you rate your recovery after treatment?	70%



# Comments

- Empowered to share in the decision of my plan of care (5%)
- I feel committed and responsible of my improvement (12%)
- I feel capable of managing my back pain (20%)
- Educational material is clear and informative (18%)

# Discussion

- Adoption of CPG is feasible
- Implementation strategy benefited PTs adherence to recommendations, knowledge, clinical decision making, physicians' commitment and patient satisfaction
- Continuous monitoring of results, identifying and addressing barriers to change and acting on multilevel basis was effective in improving therapists' adherence to CPG recommendations
- Clinically relevant improvement in patient functioning and satisfaction

# Discussion

- First study reporting compared results from two consecutive implementation cycles
- Influencing factors: PTs received monthly reminders by emails and barriers were identified and addressed
  - PTs educated about difference between “usual care” and CPG recommendations
  - Physicians were introduced to CPG-LBP
  - Patients received information about their condition and the role of Physiotherapy in their recovery process

# Discussion

- Meta –analysis showed that multifaceted educational meetings were effective in increasing adherence to CPG (van der Wees 2008)
- Level of adherence improved : decrease in the number of sessions and prescription of exercise therapy and patient education is in concordance with the literature (Rutten 2010)
- Competency test result: similar to American physiotherapists (Jette 2006) our therapists were confident in clinical triage for musculoskeletal problems in pts with NSLBP

# Discussion

- Referring physicians were more prone to leave the physical therapy treatment modalities to the discretion of the therapists
- Consequently patients were less influenced by the physician prescription and were more open to follow therapists' advice and selected modalities of treatment
- Create an environment of interprofessional collaboration is required

# Discussion

- In concordance with the literature, education of our patients and their active participation in deciding for the plan of treatment made them feel responsible for their care and its outcome (Ostelo 2005; Pilling 2010)
- Adherence to CPG recommendations is associated with better clinical outcomes (Fritz 2007; Rutten 2010) .Patients' mean difference in both outcome indicators were higher than the defined standard MCIC
- Decrease trend in number of sessions although not statistically significant
- Deviation from recommendations due to the presence of yellow flags and individual adaptation (Peterson 2011; NICE 2009)

# Limitation

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- Observational study
- Small number of patients (n=44)
- Small number of physiotherapists (n=9)
- Results not generalizable
- Successful pilot study
- Feasibility test for adoption of a foreign CPG

# Conclusion

- Continuous monitoring of results
- Identifying and addressing the barriers to change
- Acting on a multilevel basis
- Were **Effective** in improving therapists' adherence to guidelines recommendations
- **Clinically relevant improvement** in patient functioning and pain intensity
- **Patients' agreement and satisfaction** were high in the area of understanding LBP condition and in general recovery outcome
- Need to check the feasibility on a nationwide basis





*Thank You for  
your Attention*