



**Karolinska
Institutet**

**Institute of Environmental Medicine
Unit of Intervention and Implementation Research**

MEASURING THE CLINICAL COURSE OF LOW BACK PAIN

- using course and indications for care to identify
subgroups

AKADEMISK AVHANDLING

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SUMMARY

Background

Non-specific low back pain (LBP) is a very common and costly condition. It is known to be recurrent in a large proportion of cases. Nevertheless, little is known about the detailed course over time, and whether this course varies between individuals or subgroups. Probably, several subgroups exist, each with a different course and treatment need. It is now possible to examine the detailed course of LBP with a new data-collection method: text messages (SMS) via mobile phones.

Aim & Objectives

The overall aim of this thesis was to explore a new method of gathering frequent data with SMS. These data were used to define the clinical course of LBP in patients seeking care in the primary care sector. The SMS method was evaluated and various ways of analysing this type of data was illustrated. Further, the clinical course was used to subgroup patients. Predictors of LBP were identified using an outcome based on frequently measured data. Finally, clinicians' opinions of the indications for secondary and tertiary prevention of LBP partly based on the clinical course were identified

Summary of methods

Subjects with LBP who sought chiropractic care have been monitored with weekly SMS's in two prospective materials, one Swedish and one Danish. The new method of gathering data using text messages was evaluated in terms of data quality and compliance. Different methods of analysing frequent data were illustrated based on examples from these materials. A hierarchical cluster analysis was the basis for forming subgroups based on the clinical course. Predictors of LBP were identified with an outcome based on frequent data. Initial focus groups determined factors important to clinicians when recommending secondary and tertiary care to patients suffering from recurrent and persistent LBP. The resulting questionnaire further ranked the different factors.

Summary of results

This method of collecting data using text messages and mobile phones resulted in a high response rate, 82.5%. Good user-friendliness was assumed as dropouts did not mention the method as a reason for dropping out. Compliance was good, over 70% of the respondents answered more than 80% of the time. In the analysis of repeated data, the research question and the outcome variable determined the most appropriate method. The individual development of LBP over time is highly variable. The cluster analysis resulted in four clinically meaningful units based on the LBP condition over time. Prediction of future LBP varies over time. Previous duration of the LBP condition is predictive of LBP at all the examined time points after the first week. Focus group discussions and the resulting questionnaire survey showed that the indication for secondary preventive care is previous LBP and for tertiary preventive treatment, the indication is improvement with treatment.

Conclusions

Text messages can be used to gather data frequently and prospectively in large populations. This method has advantages compared to traditional data collection methods and showed that prediction of LBP may be a function of time. Clinically meaningful subgroups could be identified based on course, but these should be examined further, using more clinical variables, and need to be replicated across other populations. Knowledge of subgroups and the indications for preventive strategies may be used in studies to investigate the effect of such strategies.