

## Objective

The Living with Chronic Obstructive Pulmonary Disease (LCOPD)<sup>1</sup> assesses quality of life. It was developed in parallel in the UK and US and has proven acceptable to patients, unidimensional and to have good psychometric properties.

## Aim

The aim of this study was to adapt and validate the LCOPD for use in Italy, Russia and Spain.

## Methods

Three main stages were involved in the adaptations:

### Translation

- The dual-panel process<sup>2</sup> was adopted to translate the UK LCOPD.
- Two translation panels were conducted consecutively in the target country; a "bilingual" panel and a "lay" panel.
- Bilingual panel participants were local people who were fluent in English in addition to their native language.
- The lay panel (people of average to low education) ensured that the translations would be acceptable to the average patient.

### Cognitive debriefing interviews

- The face and content validity of the translated measures were assessed by cognitive debriefing interviews with COPD patients in the target countries.

### Validation Survey

- Test-retest surveys (two administrations, two-weeks apart) were conducted in each country to assess the psychometric properties of the new language versions.
- Assessments included internal consistency, test-retest reliability (reproducibility), convergent validity (with the Nottingham Health Profile (NHP)<sup>3</sup> in the Italian sample and with St. George's Respiratory Questionnaire (SGRQ)<sup>4</sup> in the Spanish sample) and known groups validity related to self-perceived general health, asthma severity and (for Russia only) clinician rating of asthma severity.
- Spirometry values of forced expiratory volume (FEV1) were available for the Russian and Spanish samples. Peak expiratory flow (PEF)

## Results

### Translation

- Bilingual panels in each country were able to translate the LCOPD into their respective language with little difficulty.
- Only minor alterations were made to the translated questionnaires by the lay panels.

### Cognitive debriefing interviews

- Eight to 15 patient interviews were conducted in each country.
- Interviewees reported finding the questionnaire relevant and easy to understand and complete.

## References

- [1] McKenna SP, Meads DM, Doward LC, Twiss J, Pokrzywinski R, Revicki D, Hunter C, Glendenning GA. Development and Validation of the Living with Chronic Obstructive Pulmonary Disease (LCOPD) Questionnaire. *Quality of Life Research* 2011; 20 (7): 1043-52.
- [2] Hunt SM, Alonso J, Bucquet D, Niero M, Wiklund I, McKenna SP. Cross-cultural adaptation of health measures. *Health Policy* 1991; 19: 33-44.
- [3] Hunt SM, McEwen J, McKenna SP. Measuring health status: a new tool for clinicians and epidemiologists. *J R Coll Gen Pract* 1985; 35:185-8.
- [4] Jones PW, Quirk FH, Baveystock CM, Littlejohns P. A self-complete measure of health status for chronic airflow limitation. The St. George's Respiratory Questionnaire. *Am Rev Respir Dis* 1992; 145: 1321-7.

## Validation

Demographic details of the validation survey samples are shown in Table 1.

Table 1: Demographic details for validation survey

Country (n)	Gender	Age (years)	Disease Duration (years)
	Male n (%)	Mean (SD)	Mean (SD)
Italy (51)	25 (49.0)	63.7 (14.7)	10.3 (8.5)
Russia (69)	37 (53.6)	62.5 (11.8)	20.9 (11.8)
Spain (142)	123 (86.6)	67.3 (8.2)	10.8 (4.7)

- Mean scores on the new versions of the LCOPD ranged from 7.5 to 11.0 (maximum possible = 22, indicating poor QoL).
- Internal consistency and test-retest reliability:**
  - All new versions of the LCOPD had good internal consistency and test-retest reliability (Table 2).
- Convergent validity (Figures 1 and 2):**
  - LCOPD scores correlated highest with the NHP-Distress scale.
  - Russian LCOPD scores correlated moderately highly with the Spirometry values in Russia ( $p < .01$ ). In contrast, the correlation between the Spanish LCOPD scores was not statistically significant.
  - LCOPD scores correlated highest with the Impact scale of the SGRQ.
- Known groups validity (Figures 3 and 4):**
  - Scores were significantly ( $p < .05$ ) related to:
    - Patient-rated asthma severity (all countries),
    - Clinician-rated asthma severity (Russian sample),
    - Spirometry assessments (Russian and Spanish sample).

Figure 1: Correlation of LCOPD with NHP sections (Italy)

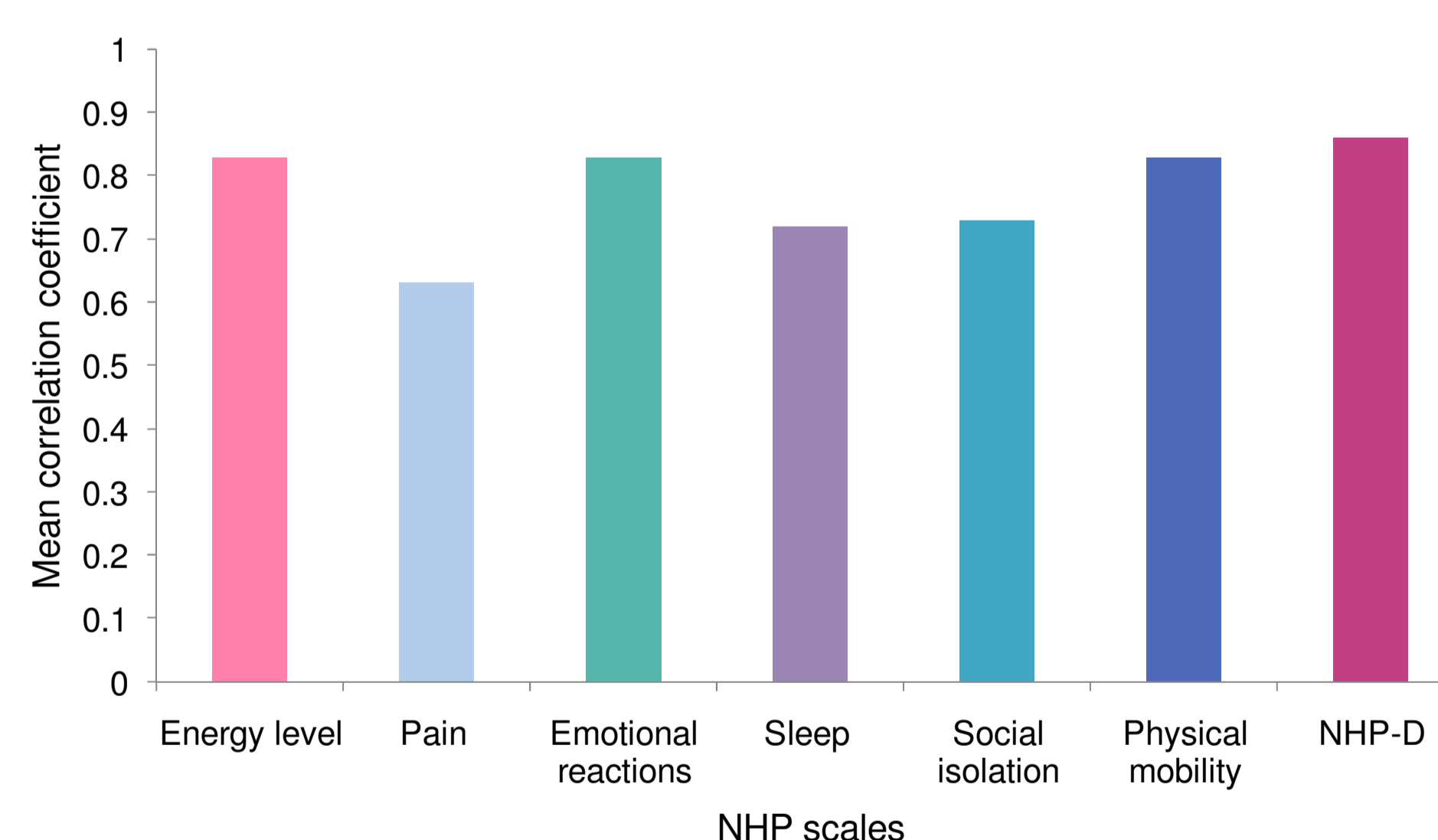


Figure 2: Correlation of LCOPD with SGRQ (Spain) and Spirometry assessments (Spain & Russia)

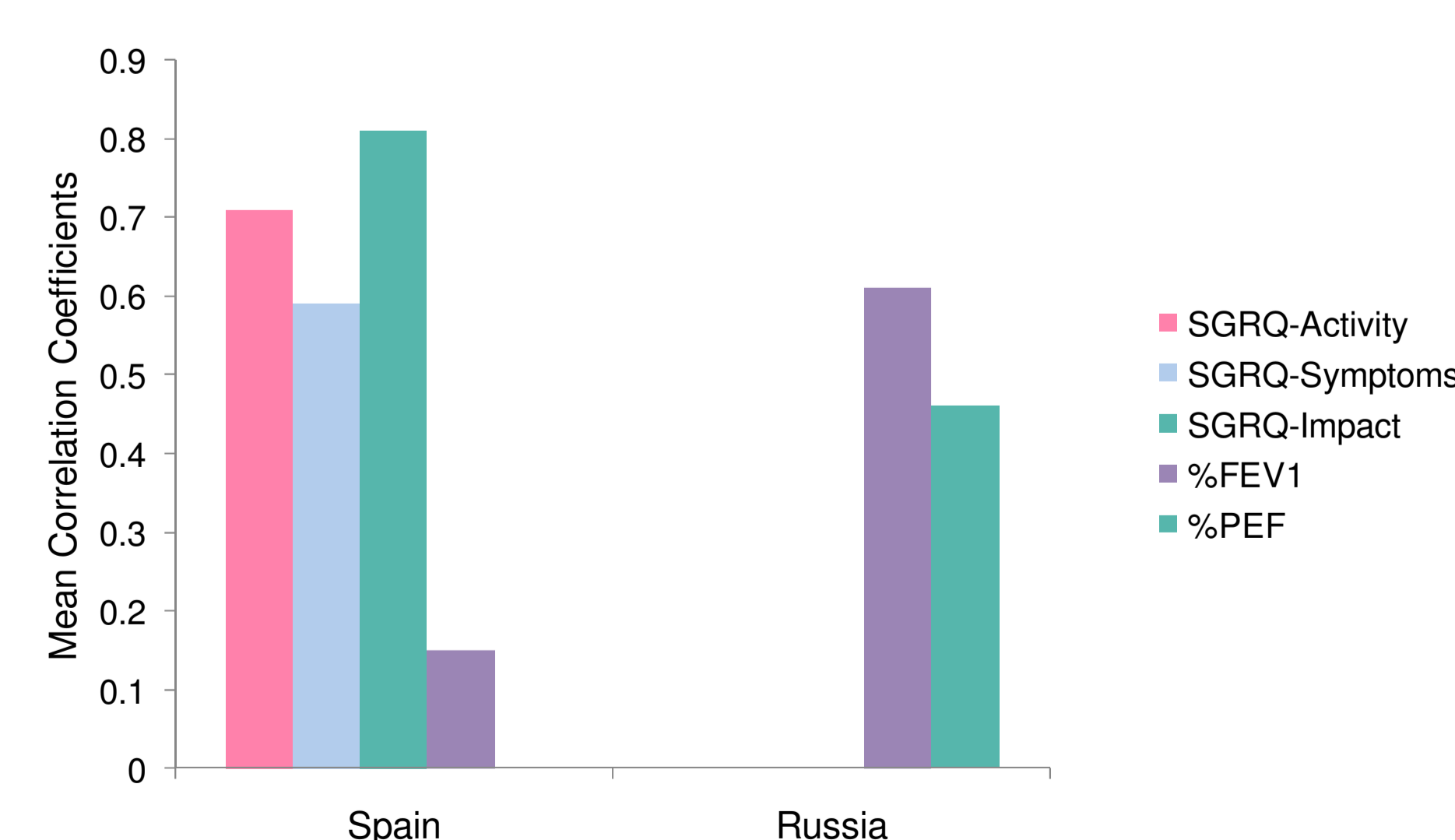


Table 2: Internal consistency and test-retest reliability scores

Country (n)	Internal Consistency	Test-retest reliability
Italy (51)	0.95	0.96
Russia (69)	0.94	0.94
Spain (142)	0.94	0.85

Figure 3: LCOPD scores by severity of COPD

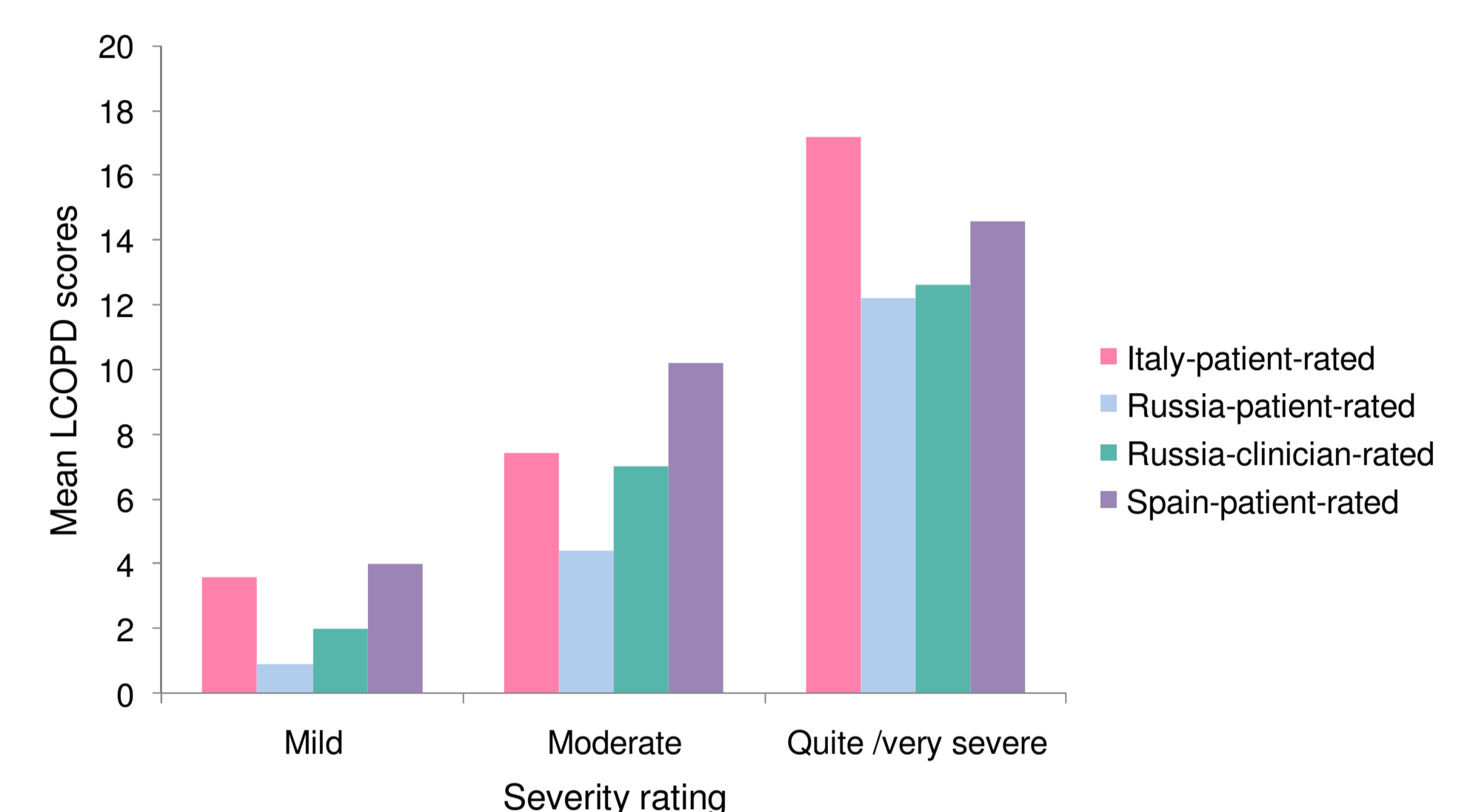
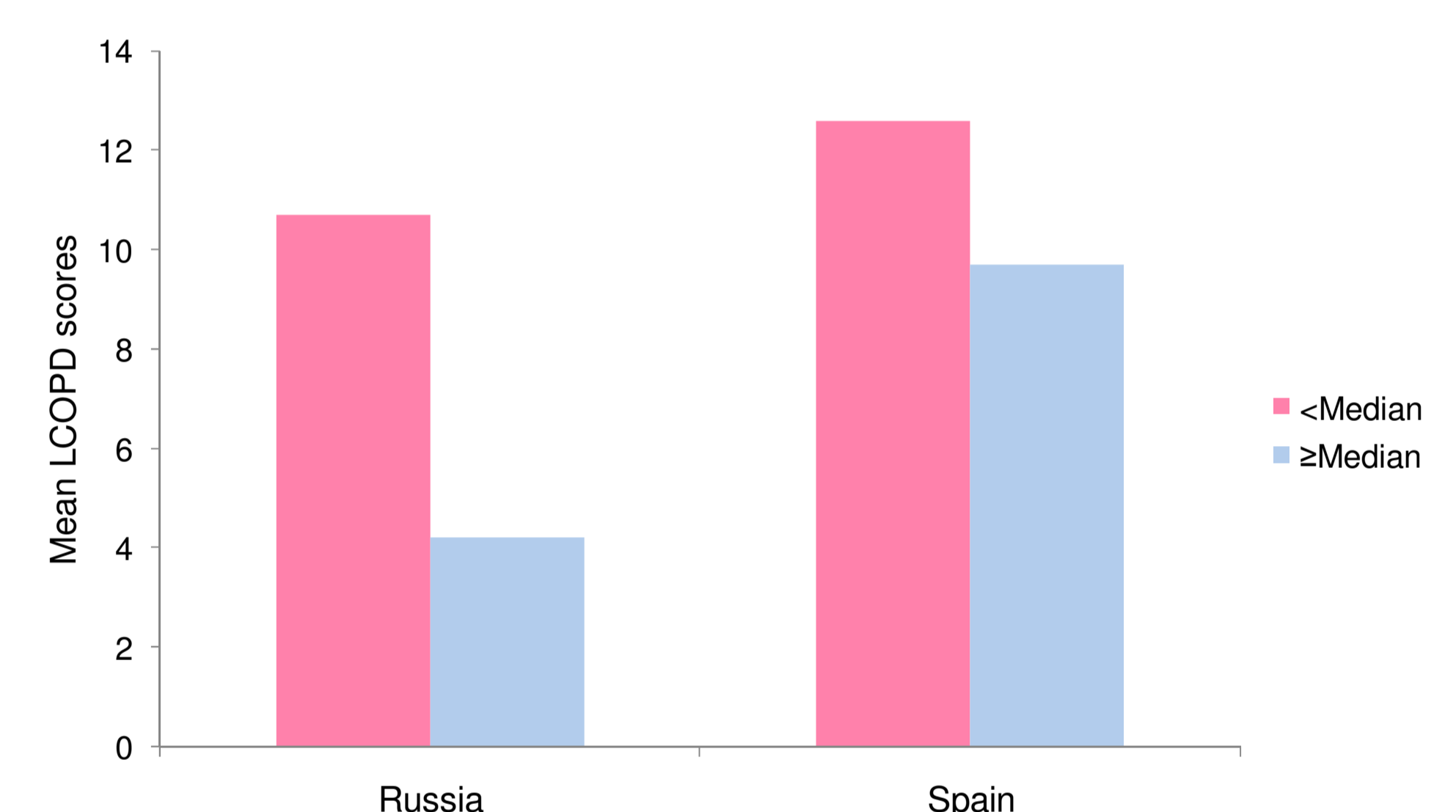


Figure 4: LCOPD scores by %FEV1



## Conclusions

The LCOPD was successfully adapted into Italian, Russian and Spanish.

The new adaptations demonstrated similar psychometric properties to those of the original UK and US versions. All three adaptations were shown to be acceptable and reproducible and to have good construct validity.

They join a growing list of language versions available for use in multi-national clinical trials (see Table 3).

Table 3: LCOPD Language Availability

UK (English)	Germany (German)*
USA (English)	Italy (Italian)
Belgium (Flemish)*	Netherlands (Dutch)*
Belgium (French)*	Russia (Russian)
Canada (English)*	Spain (Spanish)
Canada (French)*	Sweden (Swedish)*
Denmark (Danish)*	Turkey (Turkish)*
France (French)*	USA (Spanish)*

\*If you are interested in further validating these versions or adapting the LCOPD for additional countries please contact Galen Research Ltd using the details below.

## Contact details

**Sigrid Rebecca Crawford**, Research Assistant, Galen Research Ltd, Enterprise House, Manchester Science Park, Lloyd Street North, Manchester, M15 6SE, UK.

Tel: +44 (0)161 226 4446

Email: [rcrawford@galen-research.com](mailto:rcrawford@galen-research.com)

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