

Deparis J<sup>1</sup>, Fritel X<sup>1</sup>, Bakker E<sup>2</sup>, Blanchard V<sup>3</sup>, Neels H<sup>4</sup>, Pizzoferrato A<sup>1</sup>

1. Poitiers University Hospital, University of Poitiers, CIC 1402 INSERM, France
2. Haute Ecole Libre De Vinci, Brussels, Belgium
3. Private physiotherapy practice, Chanceaux-sur-Choisille, France
4. University of Antwerp, Antwerp University Hospital, Belgium



## 1. Aims

The Antwerp Pelvic Floor Knowledge Questionnaire (APFK-Q) is self-administered and assesses women's knowledge of the structure and function of the pelvic floor, urinary and defecatory physiology, the main Pelvic Floor Dysfunction (PFD), risk factors and management of PFD. An image of a female body is included to assess the ability to localise the pelvic floor (Figure 1), as well as a numerical scale (0 to 10) to assess the level of self-perceived knowledge. Undecided response options ('don't know' and 'other') are included to improve response rates. The questionnaire contains 32 knowledge items including 4 of open-ended questions to gather information and thoughts.

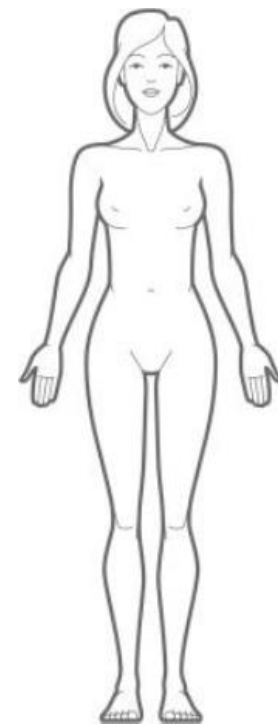


Figure 1

**The aim of this study was to validate the French version of the APFK-Q and to assess its psychometric properties.**

## 2. Methods

### 2.1 Cross cultural adaptation process

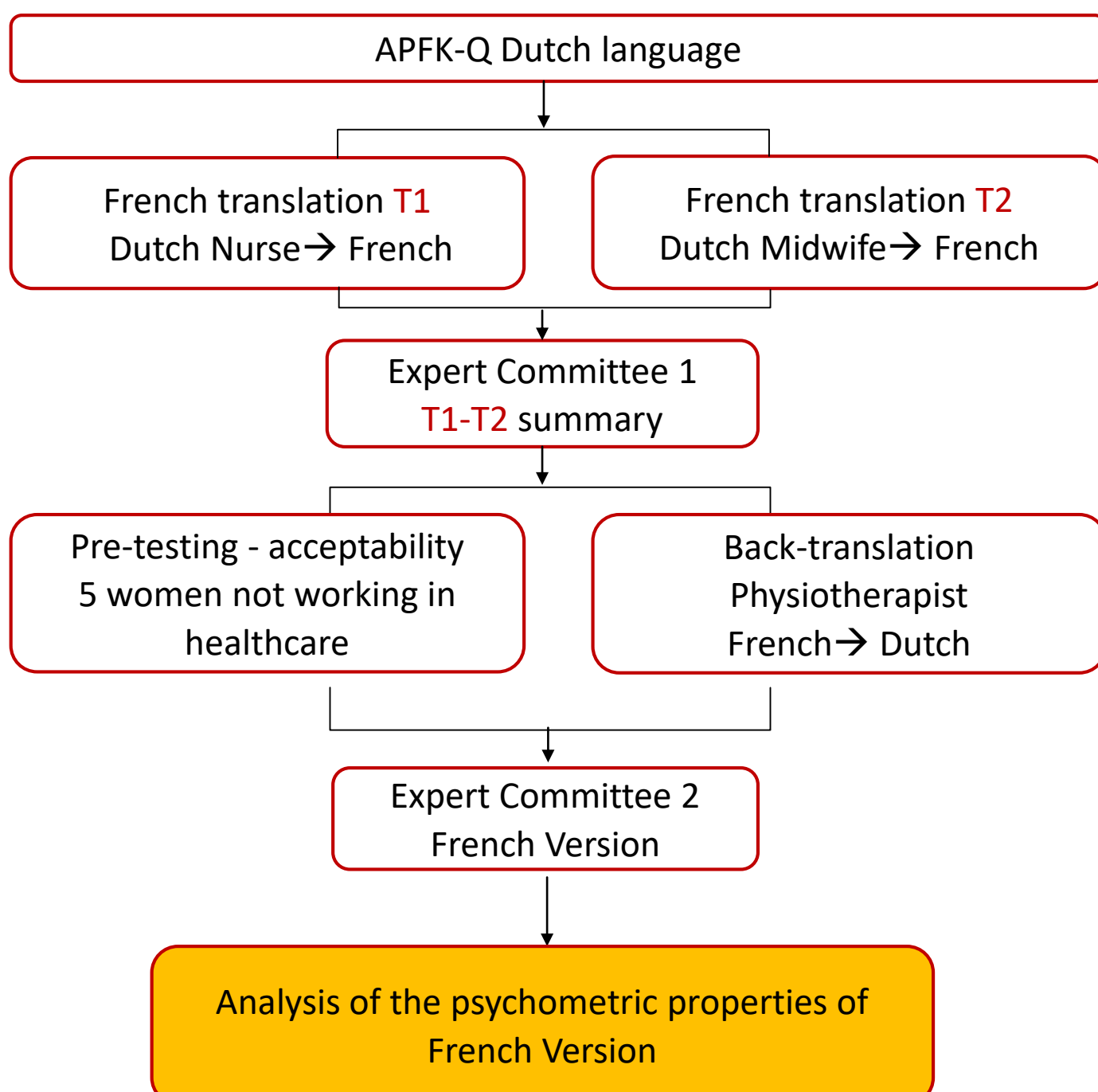


Figure 2: Cultural adaptation process of the APFK-Q according to the reference methodology of Beaton et al. (3)

### 2.2 Validation

**Acceptability** was assessed on two samples of women: a group of non-healthworker women and health students. The French version of the APFK-Q was digitised. At the end of each page of the questionnaire, a free text box was provided for noting questions that were difficult or impossible to understand, explaining why, and suggesting a reformulation of the question. The non-response rate per question was another indicator of acceptability.

**Reproducibility** : Twenty-three non-healthworker women agreed to take part in a test-retest to assess reproducibility. Agreement of responses was measured for each question using Cohen's kappa coefficient.

**Sensitivity to change** was assessed before and after a pelvic floor health education workshop. For this analysis, the expected correct answers for each item were discussed by a panel of experts. The proportion of correct answers was compared before and after the workshop using McNemar's Chi2 test.

**Readability** and the reading level required for optimal comprehension were assessed using the Flesch and Flesch-Kincaid tests respectively.

## 3. Results

### Acceptability

Five women who were not healthworkers took part in the pre-test. They were aged between 16 and 55, with a parity of between 0 and 3. They expressed 3 comprehension difficulties which were modified in the French version.

Seventy percent (n=72) of the women and 72% (n=21) of the female health students reported no comprehension difficulties.

Table 1: General characteristics of non-healthworkers and student midwives

	Non-healthworkers n=112 (%)	Student midwives n=29 (%)
Age (mean +/-1 SD) [min-max]	34.9 +/-14.1 [20-82]	23.0 +/-0.9 [22-26]
Parity (mean +/-1 SD) [min-max]	1.0 +/-1.5 [0-10]	0
Nulliparous	65 (58.0)	29 (100)
Primiparous	12 (10.7)	-
Multiparous	35 (31.2)	-
Level of study		
Primary	2 (1.79)	-
College	9 (8.04)	-
High school	8 (7.14)	-
Higher education	93 (83.04)	29 (100)
Self-perceived level of knowledge	4.2/10 +/-2.3 [0-9]	6.4/10 +/- 2.6 [3-9]

### Reproducibility – Test reTest

The kappa was greater than 0.8 for 46% of the items, and between 0.6 and 0.8 for 25%. Thus, 71% of the items showed a good or very good level of agreement. The level of agreement was moderate for 16% and mediocre for 3%.

### Sensitivity to change

The proportion of correct answers was significantly higher for 72% of the items (21/29). The women estimated their level of knowledge at 2.1 (+/-1.6) before the workshop and 6.3 (+/-2.5) afterwards (p<0.001). Analysis of sensitivity to change is often lacking in this type of study including for the Dutch version of the APFK-Q. Our analysis thus constitutes a real added value for our study.

### Readability

The French version of the APFK-Q was judged easy to understand by the FRES test with a score of 60.6. The school level required for optimal comprehension was estimated at 8th grade. The National Institute of Health (NIH) and the Center for Disease Control (CDC) recommend that self-administered questionnaires target a reading level of between the sixth and eighth grades (middle school level). These findings are thus in line with the CDC and NIH recommendations.

## 4. Conclusions

The French version of the APFK-Q is an acceptable, reproducible, and easy-to-understand questionnaire that provides a broad description of women's knowledge of the pelvic-perineal sphere. Sensitivity to change was validated for most of the items, suggesting that it is a relevant tool in clinical research for evaluating the effectiveness of a pelvic-perineal health education initiative. **To date, it is the only psychometrically validated questionnaire available in French for assessing women's knowledge on the subject.**

## References

1. Neels H, Wyndaele JJ, Tjalma WAA, De Wachter S, Wyndaele M, Vermandel A. Knowledge of the pelvic floor in nulliparous women. J Phys Ther Sci. mai 2016;28(5):1524-33.
2. Neels H, Tjalma WAA, Wyndaele JJ, De Wachter S, Wyndaele M, Vermandel A. Knowledge of the pelvic floor in menopausal women and in peripartum women. J Phys Ther Sci. nov 2016;28(11):3020-9.
3. Beaton DE, Bombardier C, Guillemin F, Ferraz MB. Guidelines for the process of cross-cultural adaptation of self-report measures. Spine. 15 Dec 2000;25(24):3186-91.