ISSN 2282-0930 • Epidemiology Biostatistics and Public Health - XIII^th SISMEC Congress - Vol. 20 Suppl. 1

Translation and Content Validity of a Tool for Measuring Perception of Nuclear Issues among Students Visiting Pavia Research Reactor

Canziani Letizia[1,2,3], Gambini Giulia[1,4], Giorgio Grosso[2], Gandini Andrea[2], Salvini Andrea[2]

(1) Dipartimento di Sanità Pubblica, Medicina Sperimentale e Forense, Università degli studi di Pavia, Pavia, Italy
(2) Laboratorio Energia Nucleare Applicata, Università degli studi di Pavia, Pavia, Italy
(3) Unità Operativa Medicina Nucleare, Fondazione IRCCS Policlinico San Matteo, Pavia, Italy
(4) Biostatistica e Clinical Trial Center, Fondazione IRCCS Policlinico San Matteo Pavia, Italy

CORRESPONDING AUTHOR: *Canziani Letizia, l.canziani@smatteo.pv.it*

INTRODUCTION

There is a lack of national data describing students' perceptions of nuclear safety. Moreover, no validated instruments currently exist for investigating this topic.

OBJECTIVES

The objectives of this study were to translate and back-translate from French to Italian and from Italian to French the questionnaire used in the study "Special Eurobarometer 271 / Wave 66.2 – Europeans and Nuclear Safety"1 conducted by the European Commission; validate the questionnaire using the Content Validity Ratio (CVR); assess the content and face validity of the tool through expert panel reviews; and collect preliminary data (pilot study) to support the planning of future research strategies.

METHODS

This pilot observational study involved the administration of a questionnaire as an additional procedure during routine educational reactor activities. Phase 1 consisted of the translation and back-translation of the questionnaire. Phase 2 involved the evaluation of content and face validity by a panel of nine experts with diverse backgrounds in nuclear science. In Phase 3, pilot data were collected using the survey instrument and subsequently analyzed through descriptive statistics. Content validity was assessed using the Item Content Validity Index (I-CVI), with a threshold of 0.78 considered acceptable, and the Scale Content Validity Index/Average (S-CVI/Ave), with a threshold of 0.80. Face validity was assessed through expert panel reviews. Items scoring below 0.60 were individually reviewed by the expert board.

RESULTS

Content and face validation revealed the removability of seven items, which were individually reviewed by the expert board. As a result, two of these items were retained. The final version of the questionnaire included twelve items, with a final S-CVI/Ave of 0.89. The pilot study (n = 50) showed a divided perception among adolescents regarding nuclear energy: some participants perceived it as highly risky, while others held more favorable views. Data collection is ongoing. Sixty percent of respondents believe that the benefits of nuclear energy outweigh its risks. However, 98% reported feeling not at all or only slightly informed about nuclear energy. Sixty-seven percent believe that nuclear power plants are not very risky or not risky at all for the country, and 88% are completely or somewhat in agreement that such plants can be operated safely. Finally, 67% believe that the use of nuclear energy should be increased.

CONCLUSION

The results of this pilot study support the successful translation, back-translation, and initial validation of the questionnaire in terms of content and face validity. These findings suggest that the instrument is a promising tool for assessing perceptions of nuclear safety and can be reliably used in future research within educational and healthcare contexts.

REFERENCES

1. European Commission, Directorate-General for Communication, Europeans and Nuclear Safety. Special Eurobarometer 271 / Wave 66.2. European Commission, 2008; Report:1-85.

DOI: 10.54103/2282-0930/29536