

Evaluation of a training program on HIV for Primary Care Providers: impact on knowledge, barriers to HIV testing, screening rates and late diagnosis

Javier Martínez Sanz¹; Alfonso Muriel¹; Elena Loza¹; Almudena Uranga²; Cristina Gómez-Ayerbe¹; M Jesús Vivancos Gallego¹; Matilde Sánchez Conde¹; M Eugenia Calonge²; Carmen Reyes Madrudejos³; Santos del Campo Terrón¹; Ana Sánchez¹; María Merino Alejandre⁴; Emma Menéndez Alonso⁵; Luis Martínez Fuente⁶; M Ángeles Seller Ripoll⁷; Gemma Collada Holguera⁸; Julián Díaz Sánchez⁹; M José Fuster¹⁰; M José Galindo¹¹; M Jesús Pérez-Eliás¹

¹Hospital Universitario Ramón y Cajal, Madrid, Spain; ²C.S García Noblejas, Madrid, Spain; ³C.S. Benita de Ávila, Madrid, Spain; ⁴C.S. Alameda de Osuna, Madrid, Spain; ⁵C.S. Estrecho de Corea, Madrid, Spain; ⁶C.S. Silvano, Madrid, Spain; ⁷C.S. Virgen del Cortijo, Madrid, Spain; ⁸C.S. Rejas, Madrid, Spain; ⁹C.S. Barajas, Madrid, Spain; ¹⁰SEISIDA, Spain; ¹¹Hospital Clínico Universitario, Valencia, Spain

Background and Objective

- Adequate training of primary care providers is essential to prevent delayed HIV diagnosis^{1,2}
- We evaluated primary care providers' knowledge and barriers to HIV testing, before and after undertaking an education program in the primary health centres of the Basic Health Area of Ramón y Cajal Hospital, in Madrid (Spain).
- We assessed the influence of this training program on HIV testing, new HIV diagnoses and late diagnosis rates.

Methods

- Pre-experimental design based on a 2-hours training program on HIV in the 20 health centres of the Basic Health Area.
- Primary care providers filled-out the structured HIV testing questionnaire *OptTEST* before and after the intervention.
- Global scores for both knowledge- and barriers-related items (from 1 to 5 points) were calculated.
- We assessed HIV testing, new HIV diagnoses and late diagnosis rates in the 6 months before and after the training program, using paired samples tests (Student's t-test and Wilcoxon). Effect sizes were estimated using Cohen's *d*.

Results

Health professionals characteristics						
Study period September 2016 - June 2017	454 health professionals were trained	344 (76%) filled out the initial questionnaire	84 matched questionnaires were achieved	91.2% were females	Median age was 51 years (IQR 43-56)	<ul style="list-style-type: none"> 59% medical doctors 39% nurses 2% other

KNOWLEDGE-RELATED ITEMS	Pre-intervention score (mean, SD)	Post-intervention score (mean, SD)	p-value
• People with undiagnosed HIV can be well with no symptoms for years	4.70(0.53)	4.80(0.56)	0.001
• If diagnosed early HIV can be managed effectively with medication	4.69(0.60)	4.92(0.28)	0.011
• HIV(+) on medication are less likely to transmit the infection	4.13(1.08)	4.69(0.69)	<0.001
• It is important that people know their HIV status	4.81(0.61)	4.93(0.26)	0.199
• HIV test should only be performed if patient asks for it	2.04(0.99)	1.69(0.91)	<0.001
• HIV test should only be offered to people with high risk	1.93(0.91)	1.65(0.91)	0.007
• A leaflet or brief pre-test discussion is sufficient before offering HIV test	3.42(1.11)	3.80(1.33)	<0.001
• Offering HIV test to people with indicator conditions is a good idea	4.13(0.91)	4.77(0.52)	0.003
Global Knowledge score (out of 100)	84.7(7.9)	91.4(7.3)	<0.001

BARRIERS-RELATED ITEMS	Pre-intervention score (mean, SD)	Post-intervention score (mean, SD)	p-value
• I am concerned patients might ask questions I cannot answer	3.01(1.13)	2.87(1.21)	<0.001
• I prefer that patients ask for test themselves	2.52(0.83)	2.25(0.97)	<0.001
• I don't think that offering HIV test will be acceptable to patients	1.76(0.73)	1.57(0.75)	0.140
• I would require additional training before offering HIV test	3.08(1.31)	2.95(1.23)	<0.001
• I am comfortable discussing HIV testing with patients	3.73(0.86)	3.94(0.92)	<0.001
• I am concerned that offering HIV testing will negatively affect patients' opinion about our services	1.80(0.84)	1.63(0.85)	0.049
Global Barriers score (out of 100)	47.8(11.7)	43.9(12.9)	0.002

Pre- and post-intervention data in the 20 health centres of the Basic Health Area of Hospital Ramón y Cajal (Madrid, Spain)

20 primary health centres	Pre-intervention (6 months)	Post-intervention (6 months)	p-value
Number of test performed, median (IQR)	223 (177-317)	255 (204-370)	0.001
Number of NHIVD, total n	11	11	0.957
Number of NHIVD in each centre, mean (SD)	0.55 (0.99)	0.55 (0.76)	0.957
HIV testing rate %, mean (SD)	3.68 (1.03)	4.34 (1.37)	0.002
NHIVD rate ‰, mean (SD)	1.87 (3.20)	2.12 (2.90)	0.790
CD4, median (IQR)	381 (133-959)	442 (339-489)	0.772
CD4 %, median (IQR)	21.9 (9.4-40.8)	28.0 (17.0-37.0)	0.677
Late diagnosis, %			
<350 CD4+	37.5	27.3	0.227
<200 CD4+	37.5	9.1	0.092

NHIVD: New HIV diagnoses

Conclusions

- The educational program for Primary Care health professionals achieves an **improvement in the Knowledge score and a decrease in the Barriers score**, assessed using the OptTEST questionnaire.
- After the training there is an **increase in the number of HIV test** performed and a **higher screening rate**, as well as a **lower percentage of late diagnosis**. We did not find differences neither in the number nor in the rate of new HIV diagnoses rate.