

Fibromyalgia in Primary Care: Can an Online CME Program Change Clinical Practice?

Sean M. Hayes¹, Kayla N. Cytryn¹, Pamela McFadden², Andrew Crim², Murray Suzanne¹
¹AXDEV Group, Brossard, Quebec, Canada, ²University of North Texas Health Science Center, Fort Worth, Texas, United States

Purpose

Fibromyalgia affects approximately 2% of Americans, yet is consistently underdiagnosed and poorly treated by primary care providers (PCP). Diagnosis is challenging in that it cannot be confirmed with objective markers. Moreover, provider attitudinal challenges interfere with care; 23% of family physicians characterized patients as malingerers and did not want to treat it.

Based on the challenging nature of fibromyalgia and the need to increase PCP awareness, confidence, and acceptance, an online program was developed to educate PCPs about diagnosis of fibromyalgia and to address provider attitudes. A pre-post online evaluation was designed including control items.

Method

An interactive online program was developed by a planning group of primary care clinicians (physicians, nurse practitioners, physician assistants), and experts in fibromyalgia and chronic pain who identified core components and content of educational activities. The program targeted diagnosis and included interactive clinical cases, a "cheat sheet" to support clinical decision making, and other reference materials. Participants were recruited via online notices on the University of North Texas Health Science Center website and e-mail invitations to an in-house e-mail list of physicians and other health professionals.

Online quantitative evaluation was carried out to examine the program impact related to improved knowledge and competence in diagnosis of fibromyalgia, relevance, and projected impact of program content on clinical practice behavior. The evaluation included control items (related to fibromyalgia but not to program content). Items included 4-5-point rating scales, true-false items, and a clinical scenario. The evaluation was administered prior to and following program participation.

Results

Participants: 154 participants completed the survey prior to the program, 47 completed the post-event survey. 55% (83/154) were physicians, 28% (43/154) nurses, 6% (9/154) nurse practitioners, 4% (6/154) physician assistants, and 4% (6/154) other types of participants.

43% (n=18/47) of participants reported that the activity was useful to clinical practice. Scores on all items related to knowledge, including pathophysiology, epidemiology, and diagnosis, increased significantly following program participation. The incidence of diagnosis was correctly identified by 65% (95/147) of participants before the program, 98% (46/47) after ($Z=-3.05$, $P=.002$). Fibromyalgia was identified as a disorder of central nervous processing significantly more, with 78% (115/147) of responses being correct prior to the program and 98% (43/47) after ($Z=-2.53$, $P=.011$). A key point of the program was that tender points are not required to diagnose fibromyalgia. This was reflected significantly more in the responses following the event [Pre: 19% (28/147), Post: 77% (36/147), $Z=-4.15$, $P=.000$]. Competence was evaluated by changes in scores on a 4-point scale, which reflected the increase in frequency with which participants would choose the action proposed in the question. The mean of correct responses related to diagnosis of patients presenting with repeated reports of pain increased from $\bar{x}=2.88$ ($SD=.74$) to 3.26 (.61) ($Z=-3.02$, $P=.003$). The mean of correct responses related to diagnosis in the clinical scenario also improved significantly, from $\bar{x}=2.8$ ($SD=.66$) to 3.35 ($SD=.71$) ($Z=-3.27$, $P=.001$). The same comparisons

were carried out of responses to control items prior to and following program participation. No significant changes were seen in any of the control items ($P=.20-.85$).

Limitations: The dropout rate of 31% from the pre-test to the post-test raises the possibility that those who completed the evaluation differed from those who did not. Further, this evaluation is based on self-report of intended practice behavior, which has limitations.

Conclusions

The evolving domain of fibromyalgia management requires educational interventions to facilitate PCPs' care of these patients. Evaluation suggests that this program was effective in improving PCP knowledge and competence. The program impact is substantiated by the significance of changes in test items compared with lack of significance in control items.

These findings validate the impact of a single online program in addressing knowledge and competence deficits in providing primary care of fibromyalgia. Such an event, while having limited impact in isolation, can form an effective component of a performance improvement initiative to change the proactive treatment of fibromyalgia patients.