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Can pharmaceutical history courses contribute in building future pharmacy leaders? A preliminary study from Erciyes University, Turkey

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This study aimed to investigate the relationship between pharmacy students' opinions on the importance of leadership and their levels of interest in pharmaceutical history. We administered a structured questionnaire to 160 undergraduate students (response rate of 86.3%) who have taken pharmaceutical history courses at the Erciyes University Faculty of Pharmacy in the past three years. We observed that 42.8% of the participants valued leadership as a very important skill that a pharmacist should possess through his/her professional career, of which 54.2% were very interested in pharmaceutical history. There is a statistically significant relationship between participants' opinions on the importance of leadership and their levels of interest in pharmaceutical history. Our findings suggest that the participants valuing leadership as a very important skill are more interested in pharmaceutical history than those valuing leadership as an unimportant skill. This result indicates that pharmaceutical history courses can serve as an effective tool for developing pharmacy students' awareness and attitudes toward professional leadership.

1. Introduction

Leadership is defined as interpersonal influence through the communication process toward the achievement of a certain goal (Tannenbaum et al. 2013). As a critical skill that involves communicating, the ability to make decisions and manage effectively, it has significant implications for many facets of pharmacy practice (Kvancz 2006; Zellmer 2008). Leadership was also identified as an essential role that a pharmacist should play according to the seven-star pharmacist concept introduced by the World Health Organization (WHO 1997).

Several studies have shown that history-related subjects can be successfully employed to teach leadership due to their potential to provide a comparative and historical perspective together with ability to help develop a critical way of thinking (Cowan 1992; Van Fleet and Wren 2005; McManus and Perruci 2015). An interesting example is from the Lienhard School of Nursing at Pace University, New York, where nursing history courses were used to teach leadership skills among nursing students (Lewenson 2005). However, the leadership-related potential of pharmaceutical history courses has remained largely unknown in Turkey where 22 faculties of pharmacy offer pharmaceutical history courses to more than 1500 undergraduate students per year (Tekiner 2015). Based on the hypothesis that pharmacy students' opinions on the importance of leadership influence their interest in pharmaceutical history, the present study seeks to investigate the relationship between these variables.

2. Investigations, results and discussion

After obtaining ethical approval from the Research Ethics Committee of the Erciyes University Faculty of Medicine and informed consent, we administered a structured questionnaire to 160 pharmacy students who have taken pharmaceutical history undergraduate courses at the Erciyes University Faculty of Pharmacy in the past three years.

A total of 138 participants, of whom 68.8% were female, responded to the questionnaire (response rate of 86.3%). The mean age was 21.77 ± 1.23 years. We observed that 42.8% of the participants valued leadership as a very important skill that a pharmacist should possess through his/her professional career, of which 54.2% were very interested in pharmaceutical history (Table 1). We also found a statistically significant relationship between participants' opinions on the importance of leadership and their levels of interest in pharmaceutical history ($p = 0.037$) (Fig. 1).

In conclusion, our preliminary study suggests that the participants valuing leadership as a very important skill are more interested in pharmaceutical history than those valuing leadership as an unimportant skill. This result indicates that pharmaceutical history courses might serve as an effective tool for developing pharmacy students' awareness and attitudes toward leadership. Therefore, we highly recommend that pharmaceutical history courses with a special focus on historical issues in pharmaceutical leadership be implemented in pharmacy education. The pharmaceutical history literature also offers a variety of suitable references that can be used in this context (Henderson 2002; Worthen 2012; Helmstaedter and Siebenand 2015).

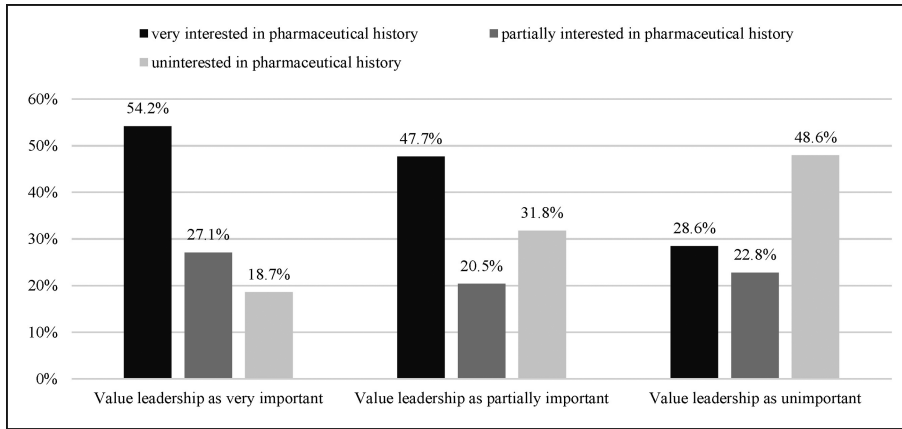


Fig. 1: Distribution of participants by their opinions on the importance of leadership according to their level of interests in pharmaceutical history.

Table 1: Distribution of participants by gender, academic year, opinion on the importance of leadership and level of interest in pharmaceutical history

Gender	n	%
female	95	68.8
male	43	31.2
Academic year		
third year	47	34.1
fourth year	48	34.8
fifth year	43	31.1
Value leadership as		
very important	59	42.8
partially important	44	31.9
unimportant	35	25.3
Level of interest in pharmaceutical history		
very interested	63	45.7
partially interested	33	23.9
uninterested	42	30.4

3. Experimental

We performed statistical analyses using the IBM SPSS Statistics 22.0 package program (IBM Corp. Armonk, New York, USA). We expressed data as frequencies (*n*) and percentages (%), and used a chi-square test with exact method to compare categorical variables. The value of *p* < 0.05 denoted statistical significance. The limitations of this study, however, included surveying a relatively small number of students who have taken pharmaceutical

history courses from the same teaching staff at only one faculty of pharmacy in Turkey.

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