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Fear of needles and vasovagal reactions among phlebotomy patients

Brett Deacon [a,*], Jonathan Abramowitz [b]

[a] *University of Wyoming, Department of Psychology, Department 3415, 1000 E. University Avenue, Laramie, WY 82071, USA*
[b] *Department of Psychiatry and Psychology, Mayo Clinic, 200 First St. SW, Rochester, MN 55905, USA*

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Abstract

Anxiety associated with blood and injections is a common problem in medical settings and, in severe cases, affects sufferers' ability to receive medically essential treatment. The present study was conducted to examine incidence of adverse reactions to venipunctures among phlebotomy patients, as well as to understand the demographic and psychological characteristics associated with such reactions. A large sample of participants undergoing venipuncture ($N = 3315$) was recruited from hospital-based phlebotomy laboratories. Participants completed a brief questionnaire assessing psychological and physiological reactions to having their blood drawn. Results indicated that a small minority of patients experienced significant anxiety symptoms during venipuncture. Vasovagal reactions and vasovagal syncope were extremely infrequent. A tendency to experience pain, disgust, and fear of fainting during injections was associated with anxious responding to the venipuncture and a probable diagnosis of needle phobia. Theoretical and practical implications are discussed.

Keywords: Specific phobia; Blood-injection-injury phobia; Needle phobia; Venipuncture; Medical patients

Fear of injections is a common concern among patients in healthcare settings. Approximately 10% of individuals in medical settings report an excessive fear of

* Corresponding author. Tel.: +1 307 766 3317; fax: +1 307 766 2926.
E-mail address: bdeacon@uwyo.edu (B. Deacon).

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needles that causes significant avoidance, distress, and/or impairment (Hamilton, 1995; Mollema, Snoek, Ader, Heine, & van der Ploeg, 2001; Nir, Paz, Sabo, & Potasman, 2003; Page, 1996). For some individuals, this fear may be severe enough to warrant a diagnosis of specific phobia, blood-injection-injury type (hereafter referred to as ''needle phobia''). Needle phobia, characterized by an intense and persistent fear of injections, affects approximately 1.6% of individuals in the general population (Bienvenu & Eaton, 1998). The associated fear and avoidance may adversely restrict important aspects of sufferers' lives including career choice, willingness to have children, and the ability to receive medically necessary treatments, such as self-injected insulin for individuals with diabetes (Marks, 1988; Zambanini, Newson, Maisey, & Feher, 1999).

In contrast to other specific phobias (e.g., fear of animals, fear of heights), blood-injection-injury phobias are associated with feelings of faintness upon exposure to feared stimuli (i.e., ''vasovagal reactions''). Indeed, many needle phobics experience ''vasovagal syncope,'' or actual loss of consciousness, in the presence of needles. To illustrate, Ost (1992) reported that 56% of needle phobics had fainted upon exposure to needles, while vasovagal reactions in the presence of feared stimuli occurred in 0% of individuals with animal phobias, dental phobia, and claustrophobia. Individuals with needle phobia often exhibit a ''diphasic'' response, characterized by an initial increase in arousal upon exposure to needles followed by a sharp decrease below baseline levels of arousal that may lead to fainting if the individual cannot leave the situation (Ost, Sterner, & Lindahl, 1984).

Vasovagal reactions in the presence of blood-injection-injury stimuli are not limited to individuals with needle phobias. Fainting in the presence of blood-injection-injury stimuli is relatively common among late adolescents (13–19%; Page, 1994), while fainting is observed in 8.0% of high school students and 2.6% of adults who donate blood (Newman, 2003). Although vasovagal reactions are usually harmless, on rare occasions some individuals may suffer syncope-induced injury or even death (Hamilton, 1995; Newman & Graves, 2001). A more common consequence of vasovagal reactions is avoidance of medical procedures involving injections. For example, fear of experiencing fainting symptoms is the most common reason that blood donors do not return for repeat donations (Sauer & France, 1999). Given the shortage of blood supply in the United States, consequences of needle fear and vasovagal reactions pose a significant public health problem.

Researchers have identified several important demographic and psychological characteristics associated with needle fear and vasovagal reactions. Studies conducted with voluntary blood donors indicate that younger age, lower body weight, and first-time donor status are significant predictors of vasovagal reactions (e.g., Newman, 2003; Trouern-Trend, Cable, Badon, Newman, & Popovsky, 1999). Psychological factors such as blood and injury fears and pain sensitivity appear to predict vasovagal reactions more strongly than do demographic characteristics (Meade, France, & Peterson, 1996). In addition,