Comments on "Systemic Complications and Their Risk Factors Among Tehranian Blood Donor, 2005"

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Majlessi and colleagues recently reported an analysis on adverse reactions to blood donation, one of the most significant current discussions in blood safety (1). Strategies to manage, prevent or decrease the frequency of adverse reactions to blood donation are among the key measures in donor recruitment programs. Similar studies have shown that up to 36% of donors may experience at least one of the adverse effects of blood donation (2). The following consists of our comments on Tehran study. The main reason to write this critique is the opportunity to review a challenging issue in blood donor safety.

Starting from the title, the term "Complication" usually defines “a disease concurrent with another disease or the concurrence of two or more diseases in the same patient” (3). Since the act of blood donation does not refer to any disease, in the context of blood donation it should be replaced with the term "Reaction". Similarly, in the first line under the abstract, the term “patient” was misused to define “donor”. When looking the introduction, employing the more specific term of "Safe Blood", a frequently used word in terminology of transfusion medicine, could be the best alternative for the term “Healthy Blood” when the adjective "Healthy" is usually used to describe the people not the material.

The study was aimed to determine the associated risk factors and frequency of the systemic reactions to blood donation, and to provide suitable methods for encouraging the repeated donation. The first line objectives are in agreement with the title of paper while the last one is not something reachable through such a cross sectional study design and needs more of an interventional or cohort methodology with strict follow-up and controlling over covariates. Under the materials and methods, the stratified random sampling was beautifully chosen probably based on the author's hypothesis of influence of the mobile blood drives condition as a predisposing factor of the outcome variable. The study duration was set to eight months period; however, in the context of blood donation and for the sake of generalize ability of the findings, it can be recommended to conduct such studies over a year to include all seasonal variations as well as the special religious events when the volunteers’ rushes cause significant increase in the occurrence of blood donation adverse reactions mainly due to donors’ excitement, anxiety, limited donation facilities such as personnel, canteens’ space and time (4).

The main points of the study were the describing the donor reaction rate to be considerably less than other studies (1), failing to establish association between the reactions and the type of blood donation base, and reporting the relation between sex, blood donor status (i.e., first-time, frequent, and repeated donors), exercise before donation, duration of donation, the practice to recommendation and the outcome variable. Under the findings of the study where the percentages of the three types of blood donors presented, only two numbers were reported, the last one was taken as granted. Throughout the section of results, the terms "Prevalence", "Incidence" and "frequency" were alternatively used to refer to the occurrence of adverse reactions. Obviously; need not to stick to the term "Prevalence" where the incidence matters. In this section where the difference between blood pressure before and after donation (seemingly after treatment of the systemic reaction) tabled, it would be more beneficial to the judgment of the respective hypothesis if the immediate blood pressure after occurrence of the reaction (before the treatment) had been included into analysis. The next recommendation for studies on risk factors of adverse reactions to blood donation is to manage some confounding factors associated with blood pressure, pulse rate, and the dependent variable. Caffeine

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ingestion, smoking, the time of day when donor enters the blood drive canteen can be considered here as the factors influencing the blood pressure and pulse rate of donor (5). Finally, in the part where associations were looked at, the conclusions would be strengthened by inclusion of cross tabulation for associations between the independent variable of "Donor Status" and categories of "Risk Factors" and "Adverse Reactions". Since vasovagal reactions are more common in younger donors than in older and repeated donors, managing the contribution between age and the variable "Donor Status" can produce higher quality in the findings of such studies (6). In General, we think the authors were successful in making their points by using appropriate methods and gathering the evidences to built logical arguments; however, the evidences would lead to more valid conclusions if considering the recommendations in research methodology and statistical analysis.

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