Looking to the future, working on the present. Intention to donate blood and risk behavior: A study on adolescents

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Abstract:
Background: The aim of this work was to investigate adolescents’ propensity to donate blood, the incidence in this population of risk behaviors that limit and restrict the potential for blood donation, thus reducing the number of possible subjects suitable for donation, and the link between propensity to donate and healthy lifestyles. Materials and Methods: Adolescents were asked to complete an anonymous self-report questionnaire during class time. The questionnaire included ad hoc items designed to investigate the intention to donate blood and behaviors traditionally considered to put adolescents’ health “at risk.” Participants were 201 students from northern Italy (range 12–19, M = 17.98, SD = 1.82; 38.9% male, 61.1% female). Results: About half of respondents perceived that they were able to donate blood and could overcome any obstacle that might prevent them from doing so. Some of the examined risk behaviors were widespread in the population under consideration. The linear regressions run show that there is no link between the propensity to give blood and a tendency to engage in healthy lifestyles. Conclusion: The study shows that adolescents demonstrate an interest in blood donation; however, it shows a real lack of “action” to make it happen: there is, indeed, a serious lack of attention to matters related to healthy lifestyles. In fact, adolescents are not aware of how to act to access the world of donation, with the risk that they present themselves at blood donation centers and are then found to be unfit to donate. The research offers many suggestions and implications.
Key words: Adolescence, blood donation, policy, recruitment, risk behavior

Introduction

This contribution is an exploratory study of a target population, adolescents, that has been little investigated, as emerges from the analysis of the national and international literature on blood donation.[1]

In Italy, as in Europe, blood donation is dependent on the commitment of volunteer donors.[2,3] A large amount of blood is required for the need of hospitals and other users, which is currently provided by a relatively small number of loyal donors.[4] The consequences of these findings for organizations that deal with blood collection are the loss of a large number of donors and the need to provide for the recruitment of others who can support the constant demand.

The decreasing trend in donor numbers makes recruitment a challenge[5] and a constant and unavoidable necessity in order to guarantee the maintenance of members’ donations, although this differs from country to country and is subject to varying conditions;[6] this reality requires that organizations continually develop strategies to recruit new donors with a significant expenditure of time and energy.[7]

As regards the recruitment of volunteers, young people represent a potential of great interest, not only for the blood supply that they could provide and a possible “career” in donation that they could take up but also for the promotion of healthy lifestyles by fostering in them a greater awareness of their health and their contribution to the development of a mature and responsible civic culture. Many health habits are developed and consolidated during adolescence, and the health habits that are developed during adolescence continue to influence health throughout the life span.[7,8] In fact, recent research demonstrated that, although adolescents are ideal candidates for blood donation (due to their health, sensitivity, and the possibility of a “long journey” as blood donors), they nevertheless reveal themselves to be uninformed and, therefore, constitute a smaller presence in the donor population.[9] It often happens that young people who arrive at blood collection centers turn out to be inappropriate for donation because of lifestyle problems (due to drug use, unprotected sexual activity, high alcohol levels). These health conditions, however, are discovered only after the first screening of the blood sample, entailing obvious expenditures of time and resources as well as limiting the potential source of blood in the referenced population.[10,11] To overcome this problem, it is important to thoroughly understand the developmental scenario of these risk behaviors. Scientific literatures on the motivations inducing
adults to donate their blood are rich and diversified. Many demographic studies aim to delineate the typical features of the donor profile or to associate specific motivational aspects with donors. Research has explored the world of donation essentially through three strands: the first concerns the use and efficacy of motivational incentives; the second has to do with motivations and deterrents to donating blood for reasons that can be subdivided into those that are intrinsic (that is, personal responsibility and values) and extrinsic (linked, that is, to social pressure); the third and final strand focuses on the specific experience of the “first donation” and on the aspects that influenced its transformation into “habitual donation,” with the principal goal of understanding how to recruit new donors and to facilitate the start of a career as a donor. However, these aspects were not investigated in adolescents. The only work on adolescents is by Zito et al., which investigated obstacles and motivations relative to adolescents’ blood donation. One aspect that emerges from among many others in this work is that adolescents report that the choice to undertake the act of donation is, in the first place, a personal choice supported by other factors such as experts and friends, which are, however, not the triggering motivation. This result provides further confirmation of the importance of appealing to adolescents’ more “personal” dimensions in order to facilitate their entry into the world of donation.

Although at any stage of an individuals’ life cycle, there can be times when one encounters risk (in that it is an indicator of the critical moments of everyone’s life), during adolescence this happens with more frequency and intensity. These actions express a self-regulated attempt to control difficulties and, therefore, risk behaviors may only occasionally be interpreted as symptoms of temporary emotional distress and are often associated with an evolution of the subject in question. The dangerous potential that risk behaviors portend is evident: They are characterized by temporary emotional distress and are often associated with an evolution of the subject in question.

In short, it is important to make young people more aware of risk behaviors that they engage in and to promote and spread the value of a healthy lifestyle; this contributes not only to a substantial increase in the quality of life but also in increasing the possibility of blood donation in this age group. In fact, it is during adolescence that a strong drive toward a pro-social attitude develops, which could be materialized through the act of donating blood.

This contribution stems from the objective of AVIS (Italian Association of Volunteer Blood Donors) to put into practice the recommendation of the European Council’s Committee of Ministers. In this recommendation, each Transfusion Service is responsible for promoting the adoption of healthy lifestyles; moreover, this study is configured as a preliminary pilot-study of a larger project conducted in collaboration with the Laboratory of Applied Social Psychology of the Università Cattolica del Sacro Cuore in Milan, Italy.

This work has three specific objectives:

1. To investigate the intention of adolescents to donate blood
2. To analyze different behaviors typically considered to put adolescent health “at risk,” such as tobacco consumption, drug use, alcohol consumption, and the experience of drunkenness and unprotected sex as well as the level of health perceived by adolescents
3. To verify whether the intention to donate blood can affect the lifestyle adopted

Materials and Methods

Participants

A total of 201 students from north Italy were involved (age range 12–19 years, M = 17.98, SD = 1.82), of which 38.9% were male and 61.1% female. Also, 56.6% participants lived in large cities (population of 70,000–1,350,000), while the remaining 43.4% lived in provincial cities and towns (population of 2,500–40,000).

All participants were informed in advance that participation was free and voluntary and that data would be used only in aggregate for research purposes.

Instruments

Participants were asked to complete an anonymous self-report questionnaire during their class time. The questionnaire included ad hoc items designed to investigate the following:

- The intention to donate blood (“I feel able to donate blood,” “I’m sure I could overcome any obstacle that would prevent me from giving,” “Donating blood is an action consistent with my moral values”);
- Behaviors traditionally considered to put adolescents’ health “at risk” (for items, see Table 1)

Analysis

Descriptive analysis was conducted (frequencies, means, and standard deviations) to analyze the answers given by the participants. Analysis of variance (ANOVA) was used to investigate the demographic differences between participants. Response frequencies were calculated for items designed to investigate the intention to donate blood and risk behaviors. Simple linear regression was used to verify whether the conduct under consideration might in some way influence the decision to donate blood. Analysis was conducted with SPSS software, version 15.0.

Results

Are teenagers willing to donate blood?

As to the first objective, that is, to investigate intention to donate blood in adolescents, it emerged that a high percentage of teenagers reported a good degree of agreement with the statement, “I feel able to donate blood” (Quite and Completely, 44.6%), claiming to be able to do so, while 30.3% of respondents did not express agreement or disagreement, taking a position of indecision.

In response to the statement, “I’m sure I could overcome any obstacle that would prevent me from giving,” about half of the subjects perceived that they really want to carry out this action (Quite and Completely, 49%). In the second case as well, the percentage of uncertain respondents (30.4%) was high.
Table 1: Questions, response rates, and frequencies for each item

| Question and response | % (n) |
|-----------------------|-------|
| Q1. Have you ever tried smoking? | |
| Yes | 49.7% (99) |
| No | 42.2% (84) |
| In the past, but now no longer | 8.1% (16) |
| Missing | (2) |
| Q2. If you answered Yes to Q1, now how often do you smoke? | |
| Rarely (less than 1 time per week) | 6.7% (6) |
| Often (not every day, but almost) | 12.2% (11) |
| Always (every day, several times a day) | 81.1% (73) |
| Missing | (9) |
| Q3. Have you ever taken drugs? | |
| Yes | 30.7% (61) |
| No | 69.3% (138) |
| Missing | (2) |
| Q4. Usually, how often do you drink beer? | |
| Every day | 2.0% (4) |
| Every week | 24.6% (47) |
| Every month | 5.5% (11) |
| Rarely | 32.2% (66) |
| Never | 35.7% (71) |
| Missing | (2) |
| Q5. Usually, how often do you drink wine? | |
| Every day | 3.0% (6) |
| Every week | 11.6% (23) |
| Every month | 2.5% (5) |
| Rarely | 30.3% (60) |
| Never | 52.6% (104) |
| Missing | (2) |
| Q6. Usually, how often do you drink spirits? | |
| Every day | 1.0% (2) |
| Every week | 21.1% (42) |
| Every month | 9.5% (19) |
| Rarely | 28.6% (57) |
| Never | 39.8% (79) |
| Missing | (3) |
| Q7. Usually, how often do you consume alcoholpops? | |
| Every day | 1.0% (2) |
| Every week | 12.1% (24) |
| Every month | 12.1% (24) |
| Rarely | 38.4% (76) |
| Never | 36.4% (72) |
| Missing | (3) |
| Q8. How often have you got drunk? | |
| Never | 36.4% (72) |
| Only 1 time | 21.7% (43) |
| A few times (2-3 times) | 22.7% (45) |
| Often (more than 4 times) | 19.2% (38) |
| Missing | (3) |
| Q9. Have you ever heard of STDs? | |
| Yes | 91.4% (169) |
| No | 8.6% (16) |
| Missing | (16) |
| Q10. Have you ever had sex? | |
| Yes | 48.3% (97) |
| No | 51.7% (104) |
| Missing | (0) |
| Q11. What methods/s did you use to avoid the risk of sexually transmitted diseases? | |
| Condoms | 77.3% (75) |
| Other methods (including the pill) | 22.7% (22) |
| Missing | (0) |
| Q12. How would you rate your health? | |
| Excellent | 31.3% (61) |
| Good | 48.3% (97) |
| Fair | 18.9% (38) |
| Poor | 1.5% (3) |
| Missing | (2) |
Upon closer inspection, a discrepancy, albeit small, emerges between feeling able to donate blood and the will to do it. It seems that adolescents are more confident of being able to overcome any obstacles as compared to being physically able to do it.

The statement, "Donating blood is an action consistent with my moral values," appears to have more answers in the net direction of a good degree of agreement (35.1% Enough; Completely, 23.2%, for a total of 58.3%) [Figure 1].

The analysis of variance did not reveal statistically significant differences between the adolescents living in cities and those living in suburban areas (p > 0.10).

**Do adolescents adopt healthy lifestyles?**

Table 1 shows the questions and responses for each item regarding the second objective of this work, which was designed to investigate some behaviors considered to put adolescents’ health “at risk” and which, therefore, could affect the outcome of donation.

**Does the willingness to donate blood cause adolescents to adopt healthy lifestyles?**

The ultimate aim of this study was to investigate whether there was any relationship between the intention to donate blood and some of the behaviors presented above. The hypothesis is that young people who are motivated to donate blood adopt healthier lifestyles and do not engage in behaviors that put their health at risk. As can be seen in Table 2, the linear regression run show (predictors of the intention to donate) that there is no relationship (P > 0.10) between the intention to donate ("I’m sure I could overcome any obstacle that would prevent me from giving") and the behaviors considered (tobacco use, alcohol use, drunkenness, perception of health, eating habits). Furthermore, although the subjects claimed to have good health, there is no relationship between this variable and the intention to donate blood.

There are similar results relative to the items, “I feel able to donate blood” and “Donating blood is an action consistent with my moral values.”

No statistically significant differences emerged between adolescents living in cities and those living in suburban areas (p > 0.10).

**Discussion**

The first aim of this work was to investigate intention to donate blood in adolescents. The young people surveyed were interested in donating blood as they considered it an act consistent with their moral values and because it could be a source of self-affirmation (self-efficacy). Adolescents were also considered potential donors, and they perceive that they are confident of being able to undertake this “career” once they reach 18 years of age. Particular consideration should be addressed, then, to those who have been called “uncertain”: In the three items that investigated intention to donate blood, we found high percentages of teenagers who are unable or unwilling to take a stand on this issue. This group is the one in which it is appropriate to specifically intervene with adequate information. Considering the response rates to the three items presented to the adolescents, it emerges, in fact, that these teens claim that giving blood is consistent with their sphere of values; however, they do not feel “able” to do so or believe that there are obstacles that they cannot overcome. Perhaps these obstacles are related to their own behavior habits and could be ascribed to the phase of the life cycle in which adolescents find themselves.[7]

The second aim was to investigate the frequency of some behaviors traditionally considered to put adolescents’ health “at risk.” The data shows a strong lack of attention to matters relating to healthy lifestyles. In the data taken into account, we pointed out experiences of drunkenness, in particular, which are quite frequent in the population investigated, but also the large number of teens who said that they had used stimulants or drugs (30.7%), both of which activities are incompatible with the donation of blood in the days following such experiences. Moreover, the data revealed a lack of information on the topic of “health.” In fact, 23.5% of respondents reported that they used pill as a method for preventing sexually transmitted diseases.

The third aim was to compare risk behaviors in which teens engage with their positive intention to donate blood. The linear regressions show that, although there is the intention to donate blood, there is no real “action” for making it happen. It seems that adolescents are not aware that it is not enough to be young to enter the world of donation. Thus, the risk already known to Donor Services is real—young people arrived to donate blood were not considered as appropriate donor candidates. In this way, the potential for donation among adolescents is drastically reduced.

**Limitations**

Because this study was exploratory, it requires further research and in-depth analysis. In particular, it is necessary to propose again the same methodological framework to a greater number of subjects in order to confirm the interesting results that emerged from the

![Figure 1: Frequency distribution of questions: “I feel able to donate blood,” “I’m sure I could overcome any obstacle that would prevent me from giving,” “Donating blood is an action consistent with my moral values.”](image)

**Table 2: Simple linear regressions conducted to verify whether the intention to donate blood is influenced by adolescents’ lifestyle**

| Risk Behaviour       | B     | ß     | R²    | t     | p    |
|----------------------|-------|-------|-------|-------|------|
| Tobacco              | .046  | .101  | .910  | .365  | .365 |
| Drugs                | -.292 | -.106 | .011  | -.106 | .169 |
| Beer                 | -.085 | -.094 | -.230 | .220  | .220 |
| Wine                 | -.054 | -.062 | -.807 | .421  | .421 |
| Spirits              | -.001 | -.001 | -.019 | .985  | .985 |
| Alcoholpops          | .030  | .039  | .503  | .616  | .616 |
| Drunkenness          | .014  | .016  | .208  | .835  | .835 |
| Unprotected sex      | -.183 | -.056 | -.735 | .463  | .788 |
| Perceived health     | -.014 | -.026 | -.336 | .737  | .737 |

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present study. Future research could compare results obtained in different contexts, including those outside of Italy.

Conclusions

Implications for practice

This research can be useful in different ways. It can lead to many different applications because it helps to have plenty of information and other useful elements in order to conduct an effective information and health education campaign aimed at the recruitment and retention of young people as new volunteer donors of blood and blood components. It follows that, especially if they wish to reach out to young people, transfusion centers and the associations that deal with recruitment must reinvent themselves and adapt to this demographic’s specific needs and characteristics in terms of both organization and logistics.

This can be translated in a concrete way by conducting specific informational campaigns addressed to teens, not only to contribute to increasing awareness regarding the adoption of “healthy” lifestyles but also to guarantee a constant source of blood from young people. It should become a routine for both staff and structure in Italy, this work of sensitization to blood donation and healthy lifestyles is often carried out by associations (such as AVIS), which provide the services of volunteer experts (e.g., appropriately trained donors, retired physicians, medical students, psychologists). The means employed by these volunteers are manifold, including sensitization campaigns in schools, telephone hot-lines (providing information on procedures, life styles, eligibility, etc.), and information booths set up in public spaces or at social and cultural events. These volunteers are often accompanied by physicians who are experts in transfusional medicine and by psychologists in order to provide appropriate answers to questions posed by aspiring donors.

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Cite this article as: Sara A, Vincenzo S, Elena M. Looking to the future, working on the present. Intention to donate blood and risk behavior: A study on adolescents. Asian J Transfus Sci 2013;7:130-4.

Source of Support: Nil, Conflict of Interest: None declared.