

Health status, donation rates, and risk of low iron levels in older Australian blood donors – early evidence from extended donor vigilance data-linkage project

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Background

Health and safety of blood donors is a top priority for the Australian Red Cross Blood Service. Thus, we are conducting an extensive data-linkage project aimed at understanding blood donation and health including risk of low iron levels.

Objectives

To describe the observed associations of self-reported overall health (SRH) with blood donation rates, and development of low iron levels in a population based sample of older Australian blood donors in NSW.

Methods

Sax Institute's 45 and Up study data in which 267,153 participants completed a baseline questionnaire in 2006-2009 was linked to Blood Service's donation records and Medicare records*. Associations between SRH, future donation rates, and low iron levels were examined using zero-inflated negative binomial and logistic regression models.

Results

Of the total participants in the 45 and Up study, 22,058(8.3%) prospectively donated whole blood after enrolment. Participants reporting less desirable health status donated blood less frequently during the follow-up compared to those with excellent health (Incidence rate ratio- very good (0.92 95%CI(0.89-0.96), good (0.84(0.81-0.88), fair/poor (0.67(0.62-0.72)). Participants reporting better health had a lower risk of developing low iron levels (p-trend= 0.01). After identification of low iron levels, 60.0%(57.6-62.0) visited a general practitioner within 60 days, and 48.4%(45.5-51.3) of those underwent testing for iron status monitoring.

Conclusions

Better SRH was associated with higher whole blood donation rate, and lower risk of developing low iron levels. SRH information may be useful to improve personalised communications strategies by Blood Service to optimise donations and minimise the risk of low iron-related deferrals.

* Medicare records were provided by Australian Government Department of Human Services. Data-linkage was conducted by the Centre for Health Record Linkage.