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# How to reverse first time donors to become regular donors? A questionnaire survey in Estonia

*Comment transformer les donneurs premier don en donneurs réguliers ? Une enquête-questionnaire en Estonie*

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## Abstract

**Background.** – Donating blood in Estonia is non-remunerated and voluntary. Estonian Blood Service system has four independent regional blood centres that are responsible for blood collection, processing, screening and distribution of blood components to hospitals for clinical use.

**Study design.** – This research was carried out as a questionnaire survey. A questionnaire was developed to study lapsing first time donors' (FTD) blood donation experience, intention and willingness to donate again.

**Methods.** – A thousand five hundred and forty-six questionnaires were posted to donors who had one successful donation in 2010 and who had not returned to second donation till the year 2012. For data analysis routine statistical methods were used. To evaluate the most appropriate number of classes, based on previous experience and future expectations, latent class analysis was used.

**Results.** – There were 453 respondents (29.3%). For the majority of aspects of blood donation experience the emotions were positive. Results of the study suggested that blood collection agencies should intervene to bolster donors' attitudes, perceived control, and identity as a donor during this crucial post-first donation period.

**Conclusion.** – First blood donation seems to have been a positive experience. Reasons leading to stopping blood donation should be studied further. Establishing a donor registry for Estonia would be essential to keep track of donors.

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**Keywords:** Donor recruitment; Donor motivation; First time donors

## Résumé

**Contexte.** – Le don du sang en Estonie est volontaire et non rémunéré (bénévole). Le système du service estonien du sang dispose de quatre centres du sang régionaux indépendants qui sont responsables de la collecte, de la préparation, de la qualification biologique des dons et de la distribution des produits sanguins labiles dans les hôpitaux, pour leur utilisation clinique.

**Conception de l'étude.** – Cette recherche a été réalisée à l'aide d'une enquête basée sur un questionnaire. Un questionnaire a été élaboré pour étudier chez les donneurs premiers dons (DPD) ne revenant pas au don, l'expérience du don, l'intention et la volonté de revenir donner.

**Matériel et méthodes.** – Mille cinq cent quarante-six questionnaires ont été envoyés aux donneurs ayant consenti un premier don de sang total prélevé avec succès en 2010 et qui ne sont pas revenus pour un deuxième don au cours de l'année 2012. Pour l'analyse des données, des méthodes statistiques de routine ont été utilisées. Pour évaluer le nombre de classes le plus approprié en fonction de l'expérience antérieure et des attentes futures, une analyse de classe latente a été utilisée.

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**Résultats.** – Les réponses de 453 répondants (29,3 %) ont été reçues. Pour la plupart des aspects de l'expérience du don de sang, les émotions étaient positives. Les résultats de l'étude suggèrent que les organismes de collecte de sang doivent intervenir pour renforcer les attitudes des donateurs, leur contrôle perçu et leur identité en tant que donneur au cours de cette période cruciale du post-premier don.

**Conclusions.** – Le premier don du sang semble avoir été une expérience positive pour les donateurs interrogés dans cette enquête. Les raisons qui conduisent à arrêter le don de sang devraient être approfondies. L'établissement d'un registre des donateurs pour l'Estonie serait essentiel pour suivre les donateurs.

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**Mots clés :** Recrutement des donateurs ; Motivation des donateurs ; Le premier don de sang

## 1. Background

Donating blood in Estonia is non-remunerated and voluntary. Estonian Blood Service system has four independent regional blood centres that are responsible for blood collection, processing, screening and distribution of blood components to hospitals for clinical use. Annual number of donations in Estonia (2013) is about 61 000.

In county hospitals, there are twenty Blood Service Divisions for storing and distributing blood products. Additionally there are four mobile stations located at blood centres (BC). Three BCs and one blood service department have divided Estonia into three regions to collect blood on mobile sessions additionally to fixed sites. A mobile team is collecting blood every working day (during about 240 sessions annually) [1]. Estonian Blood Bank Information System (EVI) was developed during 1995–1996. EVI has been developed according to the ISBT 128 Standard (high quality of donor screening, blood collection, manufacturing and product management process). These documents also standardise training and operating procedures at BCs, systems and software activities. Every step of blood processing, from donation to transfusion, is done under strict safety and quality requirements. Whole procedure is traceable in EVI, but the local databases are not unified.

Donors in Estonia do not need to schedule an appointment for their visit. When two (for male donors) or three (for female donors) months from previous blood donation are passed, donor can come whenever he/she finds suitable opening hours for the visit. Donors also receive invitation by e-mail, SMS or postcard, it depends which invitation type donor prefers (recorded in EVI). Invitations are sent by specialist who selects donors, considering present blood supply and demand, donor blood groups and donation place preference (mobile or fixed site). All invitations are sent via EVI. Currently a first time donor (FTD) may not receive invitation/reminder to the next donation (depending on specific blood group demand). Response rate for donor invitation has been rather low in 2011 and 2012 – only 19%.

In 2007 new donor retention rate within a year in Estonia under 25 years was 27% and among 25+ years 25%. Altogether there were 4950 FTD in 2007 (this constitutes 26% from all donors who visited BC in 2007) this means that BC had lost about 3700 donors. Those numbers indicated the seriousness of the problem and showed the need to investigate this topic more closely.

The aim of the current paper was to describe the background characteristics and donor experience of first time donors to be able to find groups of donors that would predict their future donating behaviour based on their satisfaction/dissatisfaction with the current donation experience.

## 2. Methods

New donor retention rate in this paper is defined as the percentage of donors who made their first donation in given year and made a second donation within 12 months after their first donation [2].

This piece of research was carried out as a questionnaire survey. A questionnaire was developed to study lapsing FTD blood donation experience, intention and willingness to donate again. The instrument consisted of 31 questions and required various types of responses (situation evaluation, multiple choice questions and responses in free format). Questions were divided into several different groups: socio-demographic characteristics of donors, donation experience, intention and willingness, reason for stopping donating. Questions 10–21 from the survey (presented in Fig. 1) were used to analyse the experience of the blood donation and questions 26 (“I plan to donate blood again within 6 months”) and 27 (“I would like to be invited to give blood again”) to analyse the future expectations of the donor. Inquiry was originally in Estonian, but additionally translated into Russian and English. Questionnaires were posted considering donors communication language preferences (information obtained from EVI). All questionnaires were sent via regular mail. Completing was voluntary and all results were anonymous (respondents' identification was not possible).

In September 2012, a thousand five hundred and forty-six questionnaires were posted on paper to donors who had one successful donation in 2010 and who had not returned to second donation till the year 2012. Due to low response rate (19.2%) the questionnaires were reposted once again (excluded addresses of returned unopened mail). After reposting the response rate was 29.3% (453 completed questionnaires).

For data analysis routine statistical methods were used (programs: Stata, version 12.0 and MS Excel 2010, Mplus 6.12). To evaluate the most appropriate number of classes, based on previous experience and future expectations, we used latent class analysis (LCA). We applied five criteria recommended by Muthén and Muthén [3]: Akaike information criterion (AIC – smaller values indicate better fit); the Bayesian Information

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