

Non-Invasive Prenatal Testing (NIPT) – Do we need a National Programme?

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Introduction

The provision of NIPT, a blood test which tests cell free fetal dNA to screen for aneuploidy, varies widely internationally. Many professional bodies endorse the use of NIPT but equitable provision of the test presents ethical challenges (1). Knowledge of NIPT and the aneuploidies which may be detected as a result of the test amongst patients varies, with most patients having an awareness of Down Syndrome but not as much knowledge of less common aneuploidies (2). Research on the patient perspective on NIPT globally show a strong desire for the test to be provided free of charge (3).

Physicians may have different attitudes to patients, taking into consideration cost-effectiveness and often feeling that NIPT should only be offered to high risk women and with adequate education and counselling (4).

In Ireland NIPT is only available privately at a cost of €400-€450 and thus the provision of the test is inequitable. To our knowledge, attitudes towards NIPT amongst pregnant women in Ireland have not previously been studied.

Aim of study

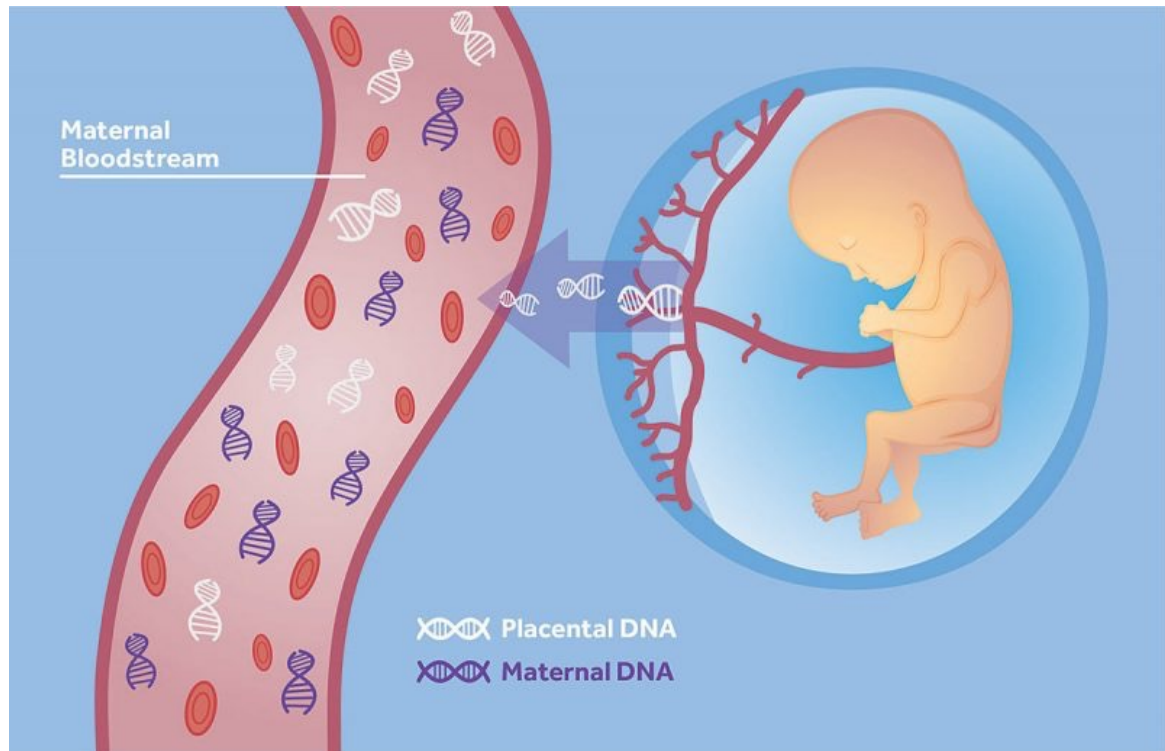
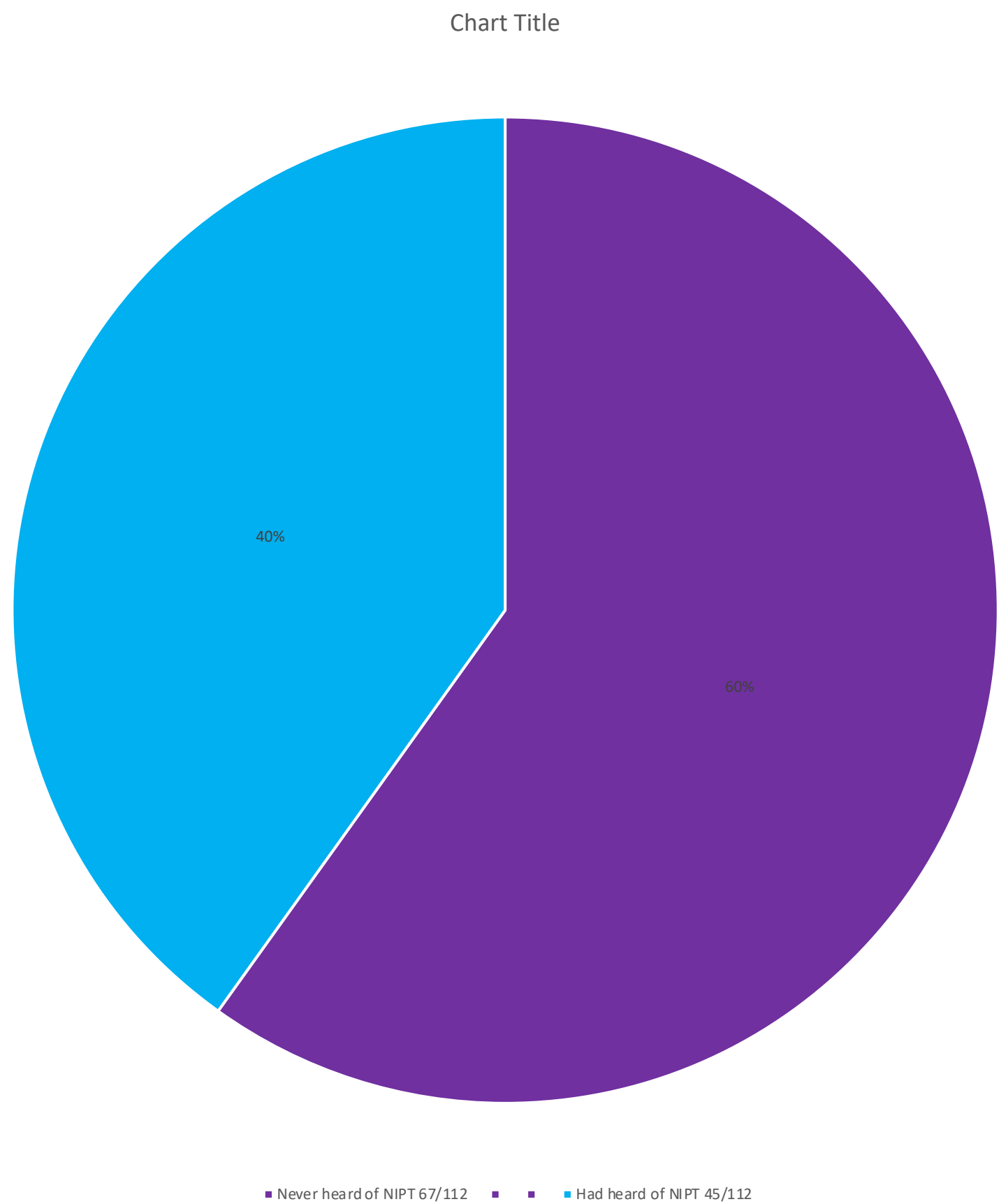
This pilot study to assess the patient perspective of NIPT in women attending maternity services in Wexford General Hospital. We hoped to investigate awareness of and explore attitudes towards NIPT amongst women booking in early pregnancy in our unit and to determine whether there is a desire for this test to be provided by the state and be offered to all women receiving maternity care in Ireland.

Methods

This was a cross-sectional observational study involving a telephone survey. All participants gave informed consent. Self-reported responses were recorded by the investigators. Women were asked about their prior knowledge of NIPT and if they had never heard of the test they were provided with information and then asked about their attitudes towards NIPT.

Results

- N=112
- Median age 32
- 50% nulliparous
- 89% Irish, 90% English as first language
- 70% had completed 3rd level education
- 88% public patients
- **60% had never heard of NIPT**
- 13% of those who had got info from HCW
- **All women had a desire for more information about NIPT**
- 82% wanted this to come from their GP
- 80% said they would avail of the test if it were free
- 85% felt the test should be made freely available to all
- 92% felt this should be an ‘opt in’ test
- Cost was the main prohibitive factor in those not getting the test



Discussion

Awareness of NIPT amongst women attending maternity services in Ireland may be low, but it is clear from this pilot study that there is a desire for more information and a more equitable provision of the test.

This would need to be to be implemented with proper education and counselling so that women fully understand the concept of the screening test and the implications of an abnormal result. This would require a much greater investment than the cost of the test alone.

	Harmony	Panorama
Pregnancy (Weeks)	10 Weeks	9 Weeks
Down Syndrome	✓	✓
Edward Syndrome	✓	✓
Patau Syndrome	✓	✓
Turner Syndrome	✓	✓
Sex of Fetus (if requested)	✓	✓
Twins	✓	✗
IVF Donor Egg	✓	✗
IVF Donor Egg Twins	✓	✗
Results Available	12 Working Days	8-10 Working Days

References: 1.Allyse M, Minear M, Rote M, Hung A, Chandrasekharan S, Berson E et al. Non-invasive prenatal testing: a review of international implementation and challenges. International Journal of Women's Health. 2015;:113.
2. Yang J, Chen M, Ye X, Chen F, Li Y, Li N et al. A cross-sectional survey of pregnant women's knowledge of chromosomal aneuploidy and microdeletion and microduplication syndromes. European Journal of Obstetrics & Gynecology and Reproductive Biology. 2021;256:82-90.
3. Sahlin E, Nordenskjöld M, Gustavsson P, Wincent J, Georgsson S, Iwarsson E. Positive Attitudes towards Non-Invasive Prenatal Testing (NIPT) in a Swedish Cohort of 1,003 Pregnant Women. PLOS ONE. 2016;11(5):e0156088.
4. Birko S, Ravitsky V, Dupras C, Le Clerc-Blain J, Lemoine M, Afddal A et al. The value of non-invasive prenatal testing: preferences of Canadian pregnant women, their partners, and health professionals regarding NIPT use and access. BMC Pregnancy and Childbirth. 2019;19(1).