Decisions about reproduction in people affected by or at risk of late-onset neurological diseases

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Decisions about reproductive risks

- These decisions involve weighing whether or not to have children at-risk, engagement with reproductive testing technologies (prenatal or preimplantation genetic diagnosis), alongside responsibilities to self and others, including future offspring.
- The rationale behind using these reproductive technologies lies in the security it provides for the management of genetic risks, i.e. in its ability to prevent transmission to future generations.
- For high-penetrance, autosomal dominant late-onset neurological diseases (LONDs), such as spinocerebellar ataxias (e.g., Machado-Joseph disease, MJD), or transthyretin-related familial amyloid polyneuropathy (TTR-FAP), the risk is 50% for a child to carry the disease gene and thus to become affected in the future.
Genetic risk and responsibility

• *Genetic responsibility* describes how ‘new’ genetic technologies are reshaping values and expectations, in that individuals genetically at-risk have come to be seen as bearing the moral responsibility of managing their own risk and preventing it to others, including potential future children (Novas & Rose, 2000).

• Literature highlights the emotionally charged decision of whether to pursue a prenatal test, and the trade-offs between reluctance to use such testing and the wish neither to transmit the disease nor to have children who will have to face the same concerns in adulthood. These decisions are sometimes further complicated by the couple’s strong wish for a child, which may conflict with their compelling wish to avoid having a child who will go on to develop the disease.
Background (iii)

The medical context

• MJD and TTR-FAP are highly penetrant hereditary LONDs. They are progressive and highly incapacitating, and no effective cure is yet available.

• Symptoms in both diseases may be heterogeneous, leading to severe motor impairment, dependency and premature death; in mutation carriers, age of onset of symptoms varies between 25 and 40 years.

• In TTR-FAP, some therapeutic measures are now available, including liver transplantation and, more recently tafamidis, a drug which may slow down the progression of symptoms in some patients.

Presymptomatic testing

• Provides information without leading to any direct clinical benefit.
Objectives and Methods

**Objectives:** to explore how talk of genetic risk foregrounds notions of responsibility, applied to questions of reproduction in persons affected by or at-risk for TTR-FAP and MJD, and their family members

**Subjects:** individual and family semi-structured interviews with participants (n=35) recruited through Portuguese patients’ associations

**Methods:** Data were thematically analysed, drawing on a broad psychosocial framework (Arribas-Ayllon et al., 2011; Atkinson et al., 2013) and on ideas about the social accountability of accounts (Buttny, 1993)
Results (i)

1. Containing risks: responsibility to prevent transmission of the family’s disease

In this theme, participants clearly prioritized reproductive risks in their decisions. Their accounts affirm the moral expectation to prevent the transmission of the disease, either by not having children at all, or by using reproductive testing technologies.

“People have the right to decide, but bringing someone into the world who could spread the disease is selfish (.). It’s just to fulfill a person’s dream without thinking much about the consequences . . . I couldn’t do a [prenatal] test to see if the baby would have it [the disease mutation] and then end it [pregnancy] (.). If it was something visible for the baby, then (.). but no, it’s just (.). a protein in the liver of a baby that could be perfect, no!” [A1, F, 40, affected by FAP (liver transplantation); no children]

A1 clearly focused on prevention of the disease, while stating discomfort with terminating a foetus with a TTR-FAP mutation. She enacted responsibility by articulating the potential blameworthiness of those who choose to have children regardless of their genetic risks. Her doubts about the acceptability of pregnancy termination would not arise if the condition led to a visible blemish on the child. She employs the rhetorical device of contrast to demonstrate that she would make the “responsible” decision - to test for and potentially terminate a pregnancy when the child might be affected by another, disfiguring condition – but is formulated here as a justification for not doing so in relation to this disease.
2. Ambivalence, blame and repentance

This theme reflects participants’ ambivalence, their conflicted decision-making, and how this sometimes involved repentance. We highlight the weighing by participants of competing desires and concerns, and how they negotiate the presentation of self as responsible.

“He [B2] only started to get sick around 40, so (. ) it’s a life. That makes me think of my daughter (. ) it worries me she may have it, but she can still live a life, can’t she? (. ) Even if she has it [MJD] it doesn’t mean she cannot have a family . . . We were clueless about this (. ) if it was today, we wouldn’t have her.” [B1, F, 37y, spouse of B2, 42, M, affected by MJD; one 17y daughter]

B1 talks about her husband’s disease, the risk to their daughter and of the value of life with genetic risks. She voiced her worry about her daughter's 50% risk, particularly as she is reaching the age when she might want to have a genetic test to know her genetic status. She then shares her repentance, although clearly a “blameless guilt”. Temporalisation is employed to de-escalate risk (Sarangi & Clarke, 2002), thereby projecting the worth of her daughter’s life despite genetic risks. She reasons that the typically late onset of the disease and its gradual progression may potentially allow her daughter to live a fulfilling life, including having children before the potential onset of the illness. This functions as a mitigating factor that helps to navigate her ambivalent feelings in relation to past reproductive choices, while also minimizing blame and guilt.
Results (iii)

3. Accepting risks: prioritizing parenthood, family life and hope in science

This theme presents the views of those most committed to having children naturally, and for whom injunctions against being parents would be unacceptable. Life-world considerations were prioritized over concerns about transmitting their family’s disease.

C1: “There’s one [baby] coming; it happened (.) it wasn’t planned . . . I don’t think much about the disease, that’s (.) I just want to be a good father, it’s my first [baby], I just” ~

~ C2: “I’d do the same! (.) The doctor said this disease only stops if we stop having children, but that’s (.) if I had their age I’d want to have children too, to have a life, otherwise the family just ends! What happens then?”

[C1, M, 30y, at 50% risk for MJD; oldest son of C2, F, 52y, spouse of C3, M, 56y, affected by MJD]

In this passage, C1 affirms he chose “not to know” his genetic status. The sense of settled fatalism may help to remove self-blame. He emphasizes he is focused on his role towards the upcoming child, while avoiding thinking of his own risk. The accidental nature of a pregnancy is a relevant rhetorical issue, as choosing to have children without first establishing one’s own genetic status when familial risks are known may be considered irresponsible. His mother (C2) swiftly exonerates him from blame, expressing solidarity with her son, thus mirroring her own situation as mother of two at-risk sons (both present in the interview). In doing so, C2 normalizes life irrespective of genetic risks, and highlights the importance of family life in its own right.
Conclusions

1. “Genetic responsibility” is enacted in the accounts by those who chose not to have children, but also by those who make an informed decision to have children at-risk.

2. Decisions about reproductive risks involve attending to relational responsibilities, emotional risks and the potential harm to relationships.

3. Participants’ presentations of their moral accountability were manifest in how they made efforts to display their responsibility to others as they portrayed moral issues and factors, and attempted to mitigate responsibility and deflect blame.

4. Examining people’s experiences and the framing of decisions will be of value for professional training and patient-centred practice.
References


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