The Psychological Burden of Preimplantation Genetic Testing (PGT-M) on Mothers with Multiple Monogenic Disorders and The Role of Genetic Counselling in Saudi Arabia.

Alshehri, Monira. [1], Qari, Alya. [1,2],; AlSayed, Moeenaldeen. [1,2],; Balobaid, Ameera. [1,2]; AlQubbaj, Wafa [1,3].
1.College of Medicine - Alfaisal University;2.Department of Medical Genetics - KFSH&RC; 3.Department of Pathology and Laboratory Medicine - KFSH&RC

INTRODUCTION

Preimplantation genetic Testing (PGT) is a technique that provides a practical alternative to prenatal diagnosis and termination of pregnancy for couples who are at substantial risk of transmitting genetic disorder to their offspring. The interplay between multiple familial genetic diseases and preimplantation genetic testing (PGT) uncertain outcomes can have a detrimental, long-lasting psychosocial impact. It can drain individuals mentally, emotionally and physically. As the presence of multiple genetic disorders increases the risk of yielding affected embryos, this study raised issue in the role genetic counselling in assisted reproductive technology (ART). It is of importance to implement measures when counselling families with multiple genetic diseases opting for PGT.

OBJECTIVES

Summary of the main objectives:

-To determine the psychosocial impact of women who underwent PGT with multiple genetic disorders.

-To investigate the emotional, social, economical burdens and attitudes towards PGT.

-To investigate the role of genetic counselling on IVF/ PGT.

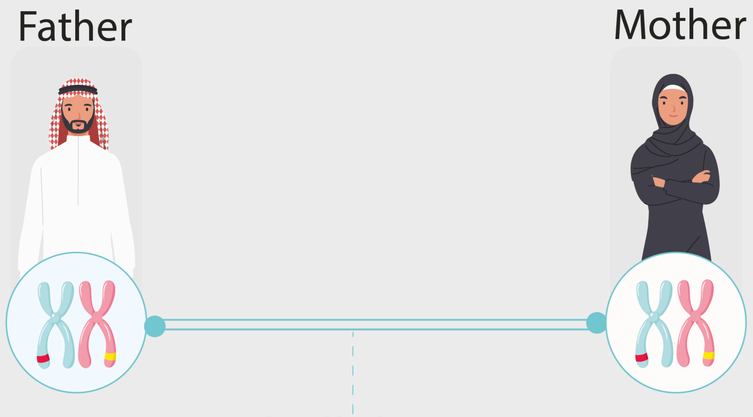
-Attitudes towards PND as an alternative option.

METHODOLOGY

Retrospective study reviewed the clinical outcomes of 31 mothers who underwent PGT, they presented to the clinic with multiple genetic conditions, between January 2009 and March 2020 at KFSHRC and met the inclusion and exclusion criteria at the IVF/ PGT Clinic. Questionnaires were designed to evaluate psychosocial, educational, and financial impacts. In addition, age, number of affected children, severity of the disease(s), reproductive history, genetic counselling sessions, and emotional supports were collected.

Visual Aid for More than One Genetic Disease

Two Autosomal Recessive Diseases



One recessive genetic disease
Probability of having a normal child (unaffected or carrier) 75%

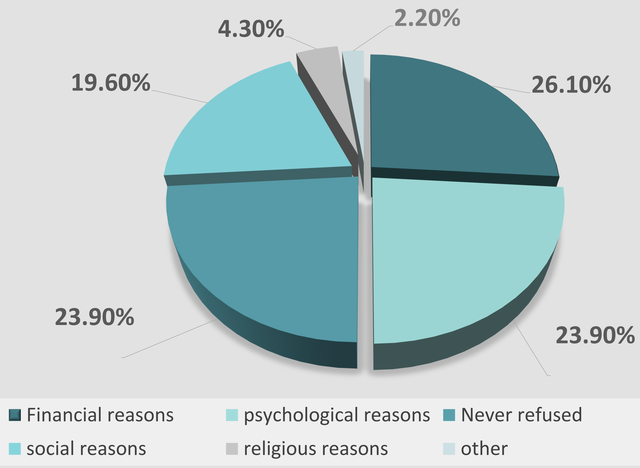
Two recessive genetic diseases
Probability of having a normal child (unaffected or carrier) 56%

AR Disease (GD1)	AR Disease II (GD2)	Probability
Affected	Healthy	3/ 16
Healthy	Affected	3/ 16
Affected	Affected	1/ 16
Healthy (or carrier)	Healthy (or carrier)	9/ 16 (56%)

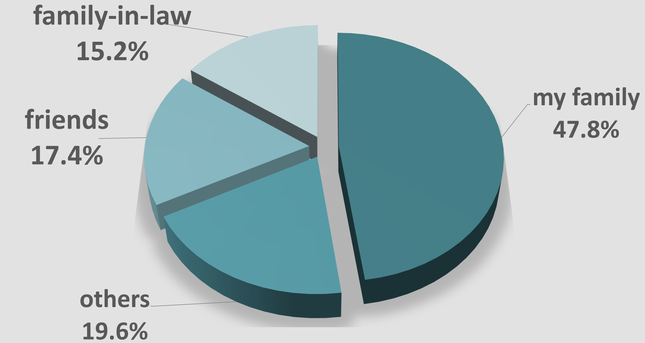
Many couples undergoing PGT are unclear about recurrence risk of having a child with multiple genetic diseases and they require a customised genetic counselling sessions.

RESULTS

Reasons for rejecting the PGT treatment in the past.



Mothers sources of care and support towards their Genetic conditions from:



CONCLUSION

Patients undergoing IVF/PGT who do not have healthy offspring and alternative reproductive options require a huge amount of support and tailored genetic counselling sessions to clarify their reproductive recurrence risk.

GC Aids and References

Supported by
SAUDI SOCIETY OF MEDICAL GENETICS