

# Fabry Findings



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**In this issue we focus on depression, its impact on Fabry symptoms, how to identify the signs and what treatments are available**

Head over to Research News (page 6) to read about a study which has shown the beneficial effects of using psychological counselling for the treatment of depression associated with Fabry disease.

The study showed that the benefits of counselling continued for six-months after counselling had ended and were seen whether an individual had received face-to-face or telephone counselling.

This not only highlights the importance of localised psychological services, but is encouraging, in that individuals who receive counselling via telephone, if they cannot attend appointments due to their condition, get the same benefits as those who see a counsellor in person.

## What is Fabry?

Fabry disease is a rare, X-linked inherited condition which is estimated to affect around 1 in 100,000 people.<sup>1</sup>



*Information on how Fabry is inherited can be found on page 9.*

In Fabry, an absence or reduced level of an enzyme called  $\alpha$ -galactosidase A ( $\alpha$ -Gal A), means that the body cannot break down certain types of fats, called globotriaosylceramide (GL-3 or Gb3) and plasma globotriaosylsphingosine (lyso-Gb3), and Gb3 builds up in a variety of cells in the body.<sup>1</sup>

This build-up causes damage to tissues and organs and leads to a range of **physical** symptoms and **complications**, which vary from one person to another.<sup>1</sup>



*Information on the physical and psychological symptoms associated with Fabry can be found on pages 2 and 3.*



# Physical symptoms and complications

## SKIN

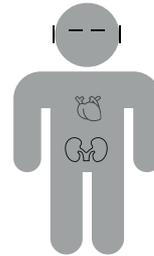
- Sweating less than normal
- Small dark red/purple spots located between the belly button and the knees

## KIDNEYS

- Protein in urine
- Decreased kidney function
- **Kidney failure**

## EYES AND EARS

- Hearing loss (in children)
- Ringing in ears
- Cloudy vision (cataracts)



## BRAIN AND NERVES

- Burning in the hands and feet
- Intolerance to heat/cold
- Vertigo/feeling dizzy
- Pain
- **Mini stroke (TIA)**
- **Stroke**

## STOMACH AND BOWELS

- Feeling sick/being sick
- Diarrhoea
- Pain/bloating after eating
- Difficulty managing weight
- Feeling full after eating a small amount of food

## HEART

- Irregular heart beat
- Enlarged heart
- **Heart attack**
- **Heart failure**

## OTHER

- Tiredness that is not relieved by rest or sleep
- Shortness of breath
- Cough/wheezing

Physical symptoms and **complications** vary from one person to another <sup>1</sup>



Symptomatic treatment refers to a treatment or therapy (e.g. heat) that eases the symptoms of a disease (e.g. pain) without having any effect on the disease itself

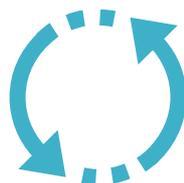
Physical symptoms vary over time and do not always respond to **symptomatic treatment** which can, in turn, lead to **psychological problems**, such as depression and anxiety.



A vicious cycle is when one problem causes another problem, which then makes the first problem worse



Psychological - relates to the mind and feelings



Psychological symptoms can cause individuals to experience physical symptoms such as fatigue and gastrointestinal problems and so a **vicious cycle** develops.



## Psychological problems

### Depression in Fabry

Around **10–25%** of the general population experience **depression** or **anxiety** at least once over their lifetime.<sup>2</sup> The numbers are much higher in those with Fabry disease.<sup>3</sup>



More Fabry males report severe depression than Fabry females (36% vs 22%).<sup>4</sup>

Men with Fabry are more likely to have higher scores for symptoms of anxiety and depression than women with Fabry, or those without Fabry.<sup>5</sup>

Higher scores for anxiety and depression are also reported in adolescents with Fabry compared with those without the disease.<sup>6</sup>

Patients whose depression is associated with a chronic condition, cope better with their illness and its symptoms when their depression is treated.



**It is important to be aware of the potential warning signs of depression and to seek medical help**



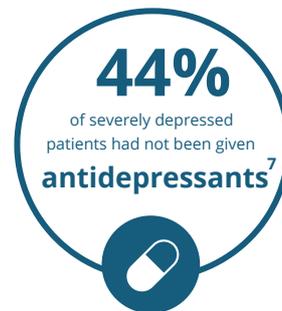
**Nobody knows why there are high rates of depression in Fabry**

Depression is often undiagnosed; **88% of mild-to-moderate** and **72% of severe depression** went undiagnosed in Fabry patients.<sup>4</sup>



**Self-reported** is when someone provides information about their own symptoms

Almost half of individuals with Fabry who **self-reported** depression had not received treatment for their depression.<sup>7</sup>



*For information on how depression is treated go to page 5.*

**High rates of depression in Fabry contributes to the morbidity and mortality of the disease<sup>2</sup>**



**Morbidity** refers to having a disease or symptom of a disease



**Mortality** refers to the number of deaths caused by a disease



*Signs of depression can be found on page 4.*

## Depression in Fabry

Signs of depression are complex and, like the physical symptoms associated with Fabry, can vary widely from one person to another.

An individual can have and show a mixture of **psychological**, **physical** and **social** signs that they are depressed.

### Signs of depression

**Psychological**



**Physical**



**Social**



### ! Signs of depression

Psychological 	Physical 	Social 
Low mood or sadness that does not go away	Moving or speaking more slowly than usual	Avoiding contact with friends and taking part in fewer social activities
Feeling hopeless and helpless	Decrease in physical activity	Neglecting hobbies and interests
Having low self-esteem	Changes in appetite or weight (increased or decreased)	Having difficulties in your home, work or family life
Feeling tearful	Constipation	
Feelings of guilt	Unexplained aches and pains (e.g. headache/ stomach ache)	
Feeling irritable and intolerant of others	Lack of energy or enthusiasm	
Having no motivation or lost interest in doing things they used to enjoy doing	Low sex drive	
Finding it difficult to make decisions	Menstrual cycle changes	
Not getting any enjoyment from life	Sleep disorders (e.g. lack of sleep, too much sleep, early morning waking)	
Feeling anxious or worried		
Thoughts of self-harm		
Suicidal thoughts or attempts		

## Treatment for depression



Treatment for depression usually involves a combination of **self-help**, talking therapies (e.g. counselling) and medicines.

Treatment depends on whether the depression is **mild, moderate** or **severe**



**Self-help for depression** includes talking to a friend or relative, books, apps and online tools

## Treatment recommendations

Treatment recommendations are based on whether the person has mild, moderate or severe depression.

### Mild depression

- Exercise
- Self-help



### Mild to moderate depression

- Talking therapy



### Moderate to severe depression

- Antidepressants
- Talking therapy





## Research news



**Treatment of depression in adults with Fabry disease**  
was published in *JIMD Reports*.<sup>8</sup>



### The study

'**Treatment of depression in adults with Fabry disease**' was published in *JIMD Reports*.<sup>8</sup>

The researchers ran a **pilot study** to examine the effects of psychological **counselling** for depression, **adaptive functioning**, **quality of life (QoL)**, and perception of pain, in Fabry disease.

The use of **telecounselling** was also studied in this group of patients.



A pilot study is a small-scale study, which is carried out to see if a large-scale study is worth doing



Counselling is a form of therapy that helps a person think about the problems they are experiencing in their life so they can find new ways of dealing with them



Adaptive functioning is how well a person handles the common demands of life and how independent they are



Quality of life (QoL) relates to the mental and physical wellbeing of an individual



Telecounselling involves a person talking to their counsellor over the phone instead of in person (face-to-face)



Telecounselling is useful to help with barriers to in-person counselling, for example, when there is a lack of localised services or when an individual receives treatment at home

# The study

To join the study individuals had to meet the following **eligibility** criteria:

- Have Fabry disease
- Be at least 18 years old
- Speak English



**Eligibility criteria are a set of rules that a person must meet to join a study**

Patients completed three questionnaires, one of which assessed if they showed signs of depression



Randomised refers to people being put, by chance, into separate groups that compare different treatments or interventions e.g. counselling

Individuals who showed signs of depression were **randomised** into one of two groups which received face-to-face or telecounselling.



**Every 14 days**  
Counselling took place  
**For 6 months**



Patients completed six months of face-to-face or telecounselling (once every two weeks) with the same psychologist, followed by six months without counselling during the **follow-up** period.

During the counselling and follow-up period patients completed questionnaires every three months (self-reported) to assess depression, adaptive functioning, QoL and how much pain they experienced.



months



or



counselling



3

months



months

Follow up



3

months

## The findings



Thirty-five adults with Fabry disease were **screened** to take part in the study.

 You have to be assessed to find out if you qualify to take part in a study. This is called screening

Fifteen were randomised either to the in-person counselling group or to the telecounselling group.

 6 people received in person counselling

 9 people received telecounselling

43% Were randomised to a counselling group  
of those screened



67% Completed the study  
of those randomised

 x5  x5

All patients experienced **significant improvements in depression**, which continued up to six months after counselling had ended.

 12 Improved depression scores were seen to the end of the study months



Mental health and physical QoL improvements were linked to improvements in **adaptive functioning**.



Adaptive functioning is how well a person handles the common demands of life and how independent they are

Improved depression was accompanied by improved mental health **QoL** and pain levels.



Quality of life (QoL) relates to the mental and physical wellbeing of an individual

### Findings in brief

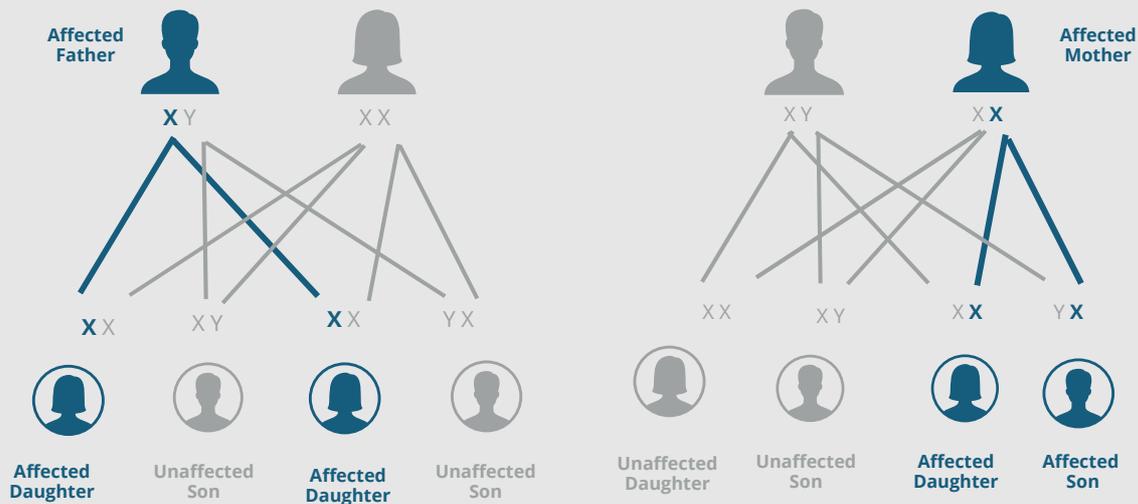
This study demonstrated the benefits of using psychological counselling for treatment of depression in individuals with Fabry disease.

Benefits continued to be seen long after counselling had been completed.



# Inheritance

The faulty gene which causes Fabry disease, the  $\alpha$ -galactosidase A gene (GLA), is located on the X chromosome



**A father with Fabry passes the faulty gene on his X chromosome to all of his daughters**

**A mother with Fabry has a 50% chance of passing the faulty gene on her X chromosome to her sons or daughters**

**His son's do not inherit Fabry because they inherit his Y chromosome**



## References

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## **Fabry International Network**

[Fabrynetwork.org](http://Fabrynetwork.org)



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