HL IB Psychology

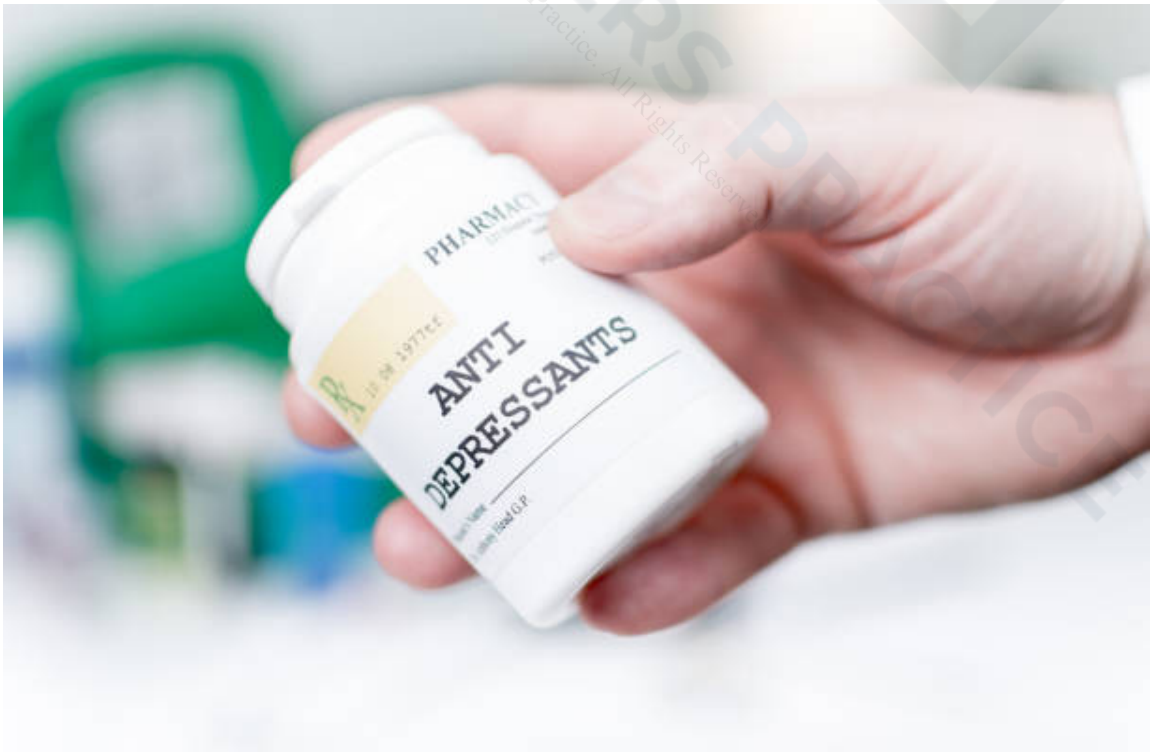
Treatment of Disorders: Biological Treatments of MDD & Phobias

Contents

Biological Treatments of Major Depressive Disorder & Phobias

What are Biological Treatments?

- **Biological treatments** are used to treat disorders such as **MDD** and **phobias** using **drug therapy**
- The use of drug therapy is in line with the **biomedical approach** to treating **disorders**
- The **depressed** or **phobic** patient is prescribed a drug that will work on the **physical** cause of the disorder e.g. **brain chemistry**
- **Antidepressants** are widely used to treat a range of disorders as well as MDD e.g. **OCD, GAD, PTSD** which means that they treat the symptoms of **depression** and also the symptoms of **anxiety disorders** (which include phobias)
- Examples of widely **prescribed** antidepressants are:
  - **Selective Serotonin Reuptake Inhibitors** (**SSRIs**): they work by increasing the amount of serotonin available in the **synaptic cleft** e.g. **fluoxetine, citalopram**
  - **Serotonin-Noradrenaline Reuptake Inhibitors** (**SNRIs**): they work in a similar way to SSRIs but are considered more effective than SSRIs e.g. **duloxetine, venlafaxine**
  - **Monoamine Oxidase Inhibitors** (**MAOIs**): they work by increasing the amount of neurotransmitters such as **serotonin** in the brain e.g. **phenelzine, tranylcypromine**



Antidepressants may provide a quick, easy and cheap solution for a range of disorders.

How are biological treatments used to treat MDD & phobias?

- The most widely prescribed form of antidepressant is the SSRI which works to prevent the **reuptake** of serotonin in the synaptic cleft back into the **presynaptic neuron** and thus increase available serotonin in the brain
- Serotonin levels have been linked to depressive symptoms (e.g. low or disrupted levels of serotonin have been implicated in the onset of MDD) - this is known as the **monoamine hypothesis**
- Phobias are less likely to be treated with SSRIs than MDD is
- MAOIs are less likely to be prescribed for MDD as they tend to work best on anxiety disorders such as **panic disorder,** phobias and PTSD
- MAOIs are a long-established drug therapy prescribed for a range of disorders, having been introduced in the 1950s
- Phenelzine, which is a MAOI, has been found to be effective in reducing the symptoms of phobias, **social phobia** in particular

Evaluation of biological treatments for MDD & phobias

Strengths

- Drug therapy has resulted in far fewer people being **hospitalised**, instead patients are able to manage their disorder, giving them more freedom and **autonomy** as a patient
- Drug therapy is **cheap** and immediately available unlike **therapy** e.g. **CBT**, which requires a **trained therapist**, is conducted over months or even years and in many cases means that the patient has to join a **waiting list** for treatment

Limitations

- SSRIs are the most common treatment for MDD, but there is still some (quite heated) **debate** as to their efficacy in treating MDD and other disorders i.e. some clinicians argue that they produce a **placebo effect**
- The debate surrounding antidepressants and the monoamine hypothesis generally may be due to **multiple factors**, probably based on the idea that depression is a group of disorders with several underlying pathologies rather than one distinct disorder (Lee et al. 2010)

Which studies investigate biological treatments for MDD & phobias?

- **Kroenke et al. (2001) –** SSRIs used to treat MDD
- **Liebowitz et al. (1988) –** MAOIs used to treat phobias

Two Key Studies of Biol Treatments of Major Depressive Disorder & Phobias

Kroenke et al. (2001)

Key study one (a biological treatment for MDD): Kroenke et al. (2001)

Aim: To compare the effectiveness of three **SSRIs** (**paroxetine, fluoxetine** and **sertraline)** in **treating MDD**, using a **large-scale randomised clinical trial.**

Participants:

- 573 patients with MDD from 37 **clinics** across the USA
- The participants were aged 19–96 years old (**mean** age=46 years)
- 79% of the sample were female; 21% were male
- The **ethnic distribution** of the sample was 84% Caucasian, 13% Black and 3% other
- Each patient had been recommended for the study by their main **clinician on** the basis of their suitability for **treatment** with SSRI **antidepressants**

Procedure:

- The participants completed a **baseline assessment** over the telephone and were **randomly assigned** treatment via one of the SSRIs (189 were given paroxetine; 193 were given fluoxetine; 191 were given sertraline) for a period of 9 months
- At intervals of 1, 3, 6 and 9 months each participant completed a 36 item **Mental Component Summary Score (MCSS) health scale** with **standardised questions** designed to measure **symptoms** of MDD
- The participants also completed **self-reports** on **multiple measures** of other **variables** (which were designed to be used in conjunction with the MCSS **data**), for example, **social and work functioning, physical functioning, sleep, memory and pain**

Results:

- 79% of participants completed the full 9 month treatment programme
- All participants improved similarly, by a mean of between 15 and 17 points on the MCSS
- All of the participants saw an **improvement i**n depressive symptoms from 74% at baseline to 32% at 3 months and 26% at 9 months

Conclusion:

- SSRIs may be an effective treatment for MDD
- The SSRIs paroxetine, fluoxetine and sertraline appear to be similar in their effectiveness for the treatment of MDD

Evaluation of Kroenke et al. (2001)

Strengths

- **Triangulation of data** was implemented via the use of several different measures e.g. MDD symptoms, social functioning, sleep which increases the **reliability** of the findings
- The wide age range of the sample highlights the universal efficacy of SSRIs which increases the **external validity** of the findings

Limitations

- It is possible that some of the participants succumbed to the **placebo effect** i.e. their depressive symptoms improved because they believed that the drug they were taking would work i.e. a psychological rather than a biological explanation of their improvement
- As the participants were left to take their **medication** at home it is possible that not all of the participants **adhered** to this **medical regimen** which would mean that their MDD improved for other reasons: if so this would reduce the validity of the findings

Liebowitz et al. (1998)

Key study two (a biological treatment for phobias): Liebowitz et al. (1998)

Aim: To investigate the effectiveness of the **MAOI phenelzine** as a treatment for **social phobia**

Participants: 80 patients aged 18–50 years old who had been diagnosed with social phobia.

Procedure:

- A l**ab experiment** with an **independent measures design**: each participant was randomly assigned to one of four groups:
  - Phenelzine treatment group
  - Placebo for phenelzine group
  - **Atenolol** treatment group (atenolol is a **beta blocker** drug used to treat **hypertension**)
  - Placebo for atenolol group

- The participants were given increasing doses of either phenelzine or atenolol or the placebo over the course of 8 weeks
- After the 8 week trial period was over the participants were assessed using the **Hamilton Rating Scale for Anxiety** and the **Liebowitz Social Phobia Scale**
- The Hamilton Rating Scale for Anxiety measures the **severity** of anxiety symptoms on a scale of 0 to 4 (4=severe)
- The Liebowitz Social Phobia Scale assesses the way that **social anxiety** plays a role in a variety of situations e.g. attending a party, eating in public, public speaking, measured on a scale of 0–3 (3=severe) and 0–3 (3=usually)

Results:

- The participants in the phenelzine treatment group had improved scores for anxiety compared to the placebo groups i.e. their social phobia had decreased over the course of the 8–week trial
- There was no significant difference seen in the atenolol group when compared to the placebo group i.e. atenolol does not appear to improve social phobia

Conclusion: Phenelzine appears to be an effective treatment for social phobia.

Evaluation of Leibowitz et al. (1988)

Strengths

- **Independent assessors** who were **blind** to the **condition** each participant was in i.e. drug or placebo, conducted the **clinical assessments** which increases the validity of the findings as it eliminates **bias**
- The findings support the idea that phobias should be treated with medication other than SSRIs as the symptoms are more in line with anxiety disorders than depressive disorders

Limitations

- A sample of 80 participants divided across 4 conditions means that the number of participants per condition is likely to be 20 which decreases reliability due to the reduced **statistical power** of the sample size.
- An independent measures design runs the risk of **individual differences** affecting the results i.e. some of the participants may simply have more **resilience** than others and thus be able to deal with their phobias more successfully than others

Key terms: MAOI Beta-blocker Social phobia