Describe and evaluate aetiologies of schizophrenia including physiological and psychological explanations. (25 marks)

One physiological explanation of schizophrenia is genetic vulnerability. Studies have shown schizophrenia is more common among family members of sufferers than others in the general population. About 1% of the population has schizophrenia, and the chance of developing the illness increases to 10% in first degree relatives (such as parents, children and siblings, showing there is a link between schizophrenia and genetics. Genetic vulnerability to mental illness can be supported by physical illnesses (e.g. heart disease, diabetes etc.) having a genetic basis, so some mental illnesses could also be linked to this, however just because schizophrenia is more common amongst relatives of sufferers doesn’t necessarily mean it is due to genetics, as families are usually exposed to the same/similar environmental influences.

Twin studies have been conducted to show the difference in concordance rates in monozygotic (identical) and dizygotic (non-identical) twins. If there is a genetic link, identical twins should have a higher concordance rate than non-identical twins. APA (1994) showed that if one identical twin is affected by schizophrenia, there is a 40-60% chance their twin will suffer too. This reduces to 17% in non-identical twins. Gottesman & Shields (1972) examined the history of 45,000 individuals treated at two London hospitals between 1948 and 1964; they found 57 schizophrenics with twins. They found a concordance rate for MZ twins of 42% compared to only 9% for DZ twins, showing a genetic influence.

Adoption studies have also taken place, and in Denmark, 33 twins from a sample of 5,500 adults who had been adopted were studied. They were compared with matched controls who didn’t have the disorder. The parents and siblings of these 66 participants (both adoptive and biological) were assessed and diagnosed by a psychiatrist, who didn’t know whether the interviewees were relatives of schizophrenics or not. Around 10% of the relatives were diagnosed with the disorder, and most of these were relatives of the affected adoptees. Almost 14% of these were the biological relatives of the schizophrenic adoptees whereas only 2.7% of the adoptive relatives were diagnosed, supporting the genetic explanation (Kety et al 1988).

Another physiological explanation for schizophrenia is the ‘Dopamine Hypothesis’ and it suggests people with the disorder have too much dopamine in the synapses of the brain or are too sensitive to it. Antipsychotic drugs – treat the symptoms of schizophrenia, but have been known to produce side-effects similar to sufferers of Parkinson’s disease, believed to be caused by a lack of dopamine – opposite to schizophrenia and supporting the idea that dopamine is a factor causing the mental illness. Some patients with Parkinson’s disease have developed psychotic symptoms if they have been given too much L dopa – a treatment for a lack of dopamine, supporting the theory of the dopamine hypothesis. Post-mortems of schizophrenics show unusually high levels of dopamine, especially in the limbic system.