It is assumed that the principles governing the transmission of traits from one generation to the next are modern discoveries with no connection to Biblical and Talmudic times. However, upon closer examination, one realizes that this statement is a misconception. Issues of genetic diseases and laws of heredity are found throughout the Bible and Talmud. For example, the Talmud (Chullin 69a) recognizes that a father or mother does not transmit corresponding limbs in the child, for if so, a blind father would produce blind children [1]. Modern genetic diseases are also mentioned in the Bible including gigantism, dwarfism, and polydactyly.

One genetic disease that is much discussed throughout the Talmud is hemophilia. In Yevamot (64b), the Talmudic sages state that if a woman has a son and she “circumcises her first child and he dies, and a second one also dies [similarly], she must not circumcise her third child.” The sages realize that hemophilia is maternally transmitted, but differ on the number of repetitive events required to establish a pattern for maternal transmission of hemophilia. Rabbi Judah believes that the third child should not be circumcised, while Rabbi Simeon believes one should wait until the fourth child [1]. The maternal aspect for transmission of hemophilia is clearly stated by Rambam (Mishneh Torah, Sefer Ahavah, 1, 18): “If a woman had her first son circumcised and he died as a result of the circumcision which, enfeebled his strength and she similarly had her second son circumcised and he died as a result of the circumcision – whether the second child was from her first husband or from her second husband – the third son may not be circumcised.” Rabbi Joseph Karo (under his pen-name, Keseph Mishneh), comments on Rambam’s statement, adding that, “there are families in which the blood is weak” [literally, loose]. He further states that if the sister of the woman also had a child who died after circumcision, then her subsequent children should not be circumcised [2]. These sages understand that there is a maternal genetic factor in the transmission of hemophilia.

Another genetic disease the Talmud mentions is epilepsy. Epilepsy is a genetically transmitted disease, with the defect mapped to chromosome 21. The Talmud (Yevamot 64a) notes, one should not take a wife from an epileptic family since this disease has a genetic factor in its transmission [3]. Dwarfism is also discussed in the Talmud. In Bechorot 45b, it states that a male dwarf should not marry a female dwarf, lest their offspring be a dwarf of the smallest size [1]. The sages comprehend that these diseases have a genetic component that can be passed to the next generation.

Topics of modern genetics can also be found in the Bible. In Genesis (chapter 30) Jacob utilizes the laws of heredity when dealing with the spotted and white sheep of Lavan he tends in order to marry Rachel. Through Divine intervention, he is shown how to distinguish between homozygous spotted and heterozygous spotted sheep and therefore knows which lines to mate for the generation of white sheep. When Jacob tends Lavan’s spotted sheep, he is able to apply his knowledge and promulgate the mating appropriate for producing white progeny [4].

...gigantism, a genetic disease, is found in Numbers, Deuteronomy, and Samuel I. When Moses sent spies to explore the land of Israel, they encountered giants (Numbers 13:33).

Some more common human conditions are mentioned in the Bible multiple times. For example, gigantism, a genetic disease, is found in Numbers, Deuteronomy, and Samuel I. When Moses sent spies to explore the land of Israel, they encountered giants (Numbers 13:33). In Deuteronomy, the Bible mentions giants again with Og, who was the only remaining giant after the Flood and ruled in his kingdom, Bashan (Deuteronomy 3:11); and later the Bible talks about the Philistine Goliath, who was a giant (1 Samuel 17:4 [1]. Another genetic disease mentioned multiple times in the
Bible is polydactyly. Polydactyly is referred to in Samuel I repeatedly when discussing Og’s three gigantic brothers. The gigantic brothers had 6 digits on each hand and on each foot (II Samuel 21:20) [5]. The issue of polydactyly was discussed further in the Talmud (Bechorot 45b), with Rabbi Tarfon considering this abnormality to be advantageous and Rabbi Jose considering it to be disgusting.

There is much evidence of modern genetics throughout the Bible and Talmud. The Talmudic sages of historic times comprehend the ideas of heredity and the genetic transmission of some diseases, notably hemophilia. Jacob uses the laws of heredity, specifically the monohybrid cross, to his benefit to obtain white progeny from spotted sheep. Throughout the Talmud mention is made of various genetic diseases and/or abnormalities. These connections between Torah and modern genetics enhance the links between Torah and Mada.

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