a. The variable di does not hold all the information required, since it s the totally onto the people to choose whether to follow the diet or not

b. 1. X is exogenous and there is no relation between the error terms and X. This means, whether or not the individual lives in a region where the diet has been advertised is not correlated to the unexplained factors in the error term.

2. b converges to ß as n -> ¥. This means that the advertising has a significant impact on the success of the individual's diet.

c. No, we would more instruments.

d.