

The Relationship Between Probiotic Consumption and Immunity in College Students Ages 18-24

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Abstract

Background: Amongst the many benefits associated with the consumption of probiotics, modulation of the immune system has recently received the most attention. There is evidence to support that intake of probiotics is effective in the prevention and/or management of many gastrointestinal diseases and modulating immune functions in a person with normal immunological status and microbiota.

Methods: An online survey regarding knowledge of foods containing probiotics, consumption of these foods, frequency of probiotic supplementation, and recent illness was developed to determine the relationship between probiotic intake and immune health amongst college students. Researchers recruited Texas Christian University students through e-mail and social media. Once the target number of participants (>150) responded to the survey, data was analyzed using SPSS.

Results: Upon surveying participants (N=157), 58% (n=91) of respondents reported that they did not take a probiotic supplement, while 19.8% (n=31) reported taking a supplement either every day or ≥3-4 times/week. There was a strong correlation between those who reported frequent probiotic supplementation and lower incidence of strep throat ($p \leq 0.01$), nausea/vomiting ($p \leq 0.01$), and constipation ($p \leq 0.05$). There was also a correlation between the consumption of certain foods containing probiotics, yogurt specifically, and illness frequency, notably, lower incidence of fever ($p \leq 0.01$) and cold ($p \leq 0.05$).

Conclusions: There is a significant correlation between the consumption of probiotic supplements and reduced incidence of certain illnesses, but foods containing probiotics show opposite or negligible results. For more conclusive results, further research should be conducted with controlled variables to determine the impact of probiotic supplements versus probiotic-containing foods.

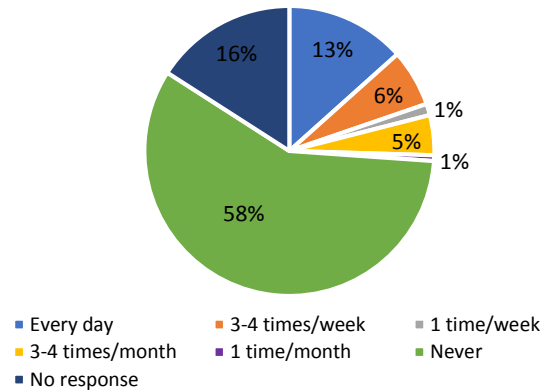
Background

Amongst the many benefits associated with the consumption of probiotics, modulation of the immune system has recently received the most attention. Previously, researchers and scientists thought that the use of probiotics only improved the gastrointestinal tract, thereby aiding digestion. However, there is now evidence to support that intake of probiotics is effective in the prevention and/or management of many gastrointestinal diseases plus modulating immune functions in a person with normal immunological status and microbiota. Since college students age 18-24 are likely to fall ill due to close living quarters, research supports that probiotic intake may improve immune function and decrease incidence of illness in this population.

Methods

An online survey was developed, via Survey Monkey, to determine the relationship between probiotic intake and immune health among college students. The study was approved by Texas Christian University's Institutional Review Board (IRB). Researchers recruited Texas Christian University students ages 18-24 through e-mail and social media. Participants answered an 18-question survey regarding their current knowledge of foods containing probiotics, consumption of these foods, frequency of probiotic supplementation, and history of recent illness. To ensure confidentiality, participant responses appeared as numbers, not names. Once the survey sample of >150 participants was met, data was analyzed using SPSS.

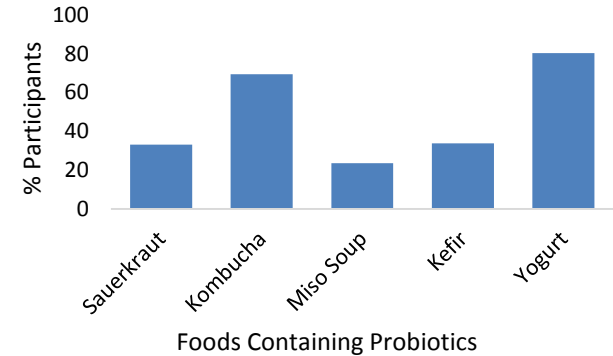
Frequency of Probiotic Supplementation



Results

Upon surveying participants (N=157), 58% (n=91) of respondents reported that they did not take a probiotic supplement, while 19.8% (n=31) reported taking a supplement either every day or ≥3-4 times/week. There was a strong correlation between those who reported frequent probiotic supplementation and lower incidence of strep throat ($p \leq 0.01$), nausea/vomiting ($p \leq 0.01$), and constipation ($p \leq 0.05$). There was also a correlation between the consumption of certain foods containing probiotics, yogurt specifically, and illness frequency, notably, lower incidence of fever ($p \leq 0.01$) and cold ($p \leq 0.05$).

Knowledge of Probiotic Containing Foods



Discussion and Conclusions

There is a significant correlation between the consumption of probiotic supplements and reduced incidence of certain illnesses. Students who consumed probiotic supplements either every day or ≥3-4 times per week had lower incidence of strep throat, nausea, constipation, and vomiting versus those students who did not take probiotic supplements. However, data pertaining to consumption of many probiotic-containing foods showed less significant or insignificant findings. The inconclusive results regarding probiotic-containing foods may be due to a knowledge deficit of foods containing probiotics or insufficient consumption of these foods. For more conclusive results, further research should be conducted with controlled variables to determine the impact of probiotic supplements, versus probiotic-containing foods, on the incidence of illness.

Foods Containing Probiotics

