

Evidence Analysis Library

Disorders of Lipid Metabolism: Saturated Fat Systematic Review (2021) and Guideline (2023)

Relationship between Systematic Review PICO Questions and Recommendations

Relationships between Recommendation Statements and Evidence from the Supporting Systematic Review for the 2023 Saturated Fat Evidence Based Nutrition Practice Guideline.

Conclusion statements and grade for certainty (quality) of evidence from the systematic review can be found in

Recommendation	Rating	Supporting Evidence from Systematic Review	Certainty of Evidence (Source of Grading)
<p>In adults living with or without CVD, healthcare professionals should suggest reduced saturated fat intake within an individualized healthy dietary pattern. Reduced saturated fat intake was associated with decreased total cholesterol and LDL-C and CVD events; however, no significant associations were found with mortality (all-cause, CVD, or CHD), CHD events, or cerebral vascular accident.</p>	<p>2(C)</p>	<p>In adults with and without existing CVD, moderate quality evidence found little to no effect of reducing saturated fat intake on all-cause mortality.</p> <p>In adults, with and without existing CVD, very low certainty of evidence suggests an unclear effect of reducing saturated fat intake on cerebral vascular accident.</p> <p>In adults with and without existing CVD, reduced saturated fat intake may have little to no effect on CHD mortality.</p> <p>In adults with or without existing CVD, very low certainty of evidence suggests an unclear effect of reducing saturated fat intake on CHD events.</p> <p>In adults with and without existing CVD, moderate quality evidence found little or no effect of reducing saturated fat intake on CVD mortality.</p> <p>In adults with and without existing CVD, moderate quality evidence suggests that reducing saturated fat intake may reduce CVD events. Greater reduction in serum total cholesterol levels leads to a greater reduction in CVD events.</p> <p>In adults with or without CVD, reduction of saturated fat intake will likely reduce total and LDL-C. Reduction of saturated fat intake may not have an effect on HDL-C or triglycerides.</p>	<p>Moderate</p> <p>Very low</p> <p>Low</p> <p>Very low</p> <p>Moderate</p> <p>Moderate</p> <p>Moderate</p>

Recommendation	Rating	Supporting Evidence from Systematic Review	Certainty of Evidence (Source of Grading)
<p>In adults living with and without CVD, healthcare professionals should recommend replacing dietary saturated fat intake with dietary polyunsaturated fat intake. Replacement of dietary saturated fat with polyunsaturated fat promotes healthy eating patterns and reduces total cholesterol and CVD events; however, there was no significant effect on all-cause, CVD, or CHD mortality.</p>	1(B)	<p>In adults with or without CVD, replacement of saturated fat with polyunsaturated fat may promote a healthy dietary pattern and may help reduce CVD events. Replacement of saturated fat with monounsaturated fat or carbohydrate may have little to no effect on CVD events.</p> <p>In adults with and without existing CVD, replacement of saturated fat with polyunsaturated fat, monounsaturated fat, or carbohydrate has little or no effect on all-cause mortality.</p> <p>In adults with or without CVD, replacement of saturated fat with polyunsaturated fat will likely reduce total cholesterol and triglycerides. Replacement of saturated fat with monounsaturated fat or carbohydrate will not likely have an effect on blood lipids.</p> <p>In adults with and without existing CVD, replacement of saturated fat with polyunsaturated fat, monounsaturated fat, or carbohydrate has little or no effect on CVD mortality.</p> <p>In adults with and without existing CVD, replacement of saturated fat with polyunsaturated fat, monounsaturated fat, or carbohydrate has little or no effect on CHD mortality.</p>	<p>Moderate</p> <p>Low</p> <p>Moderate</p> <p>Low</p> <p>Low</p>
<p>Healthcare professionals may prioritize reduction of the amount of saturated fat over reduction of specific sources of saturated fat foods within individualized healthy dietary patterns when providing nutrition education to reduce CVD risk. Low certainty evidence demonstrates that a variety of dairy products are not associated with an increased risk of CVD; however, reduction of red meat and processed meat is associated with reduced CVD risk.</p>	2(C)	<p>Meat</p> <p>In adults, reduced red meat or processed meat intake may reduce all-cause mortality based on low certainty evidence. None of the studies examined controlled for saturated fat intake; therefore, the impact of saturated fat consumed from red meat or processed meat on all-cause mortality is unclear.</p> <p>In adults, reduced red meat or processed meat intake may reduce CVD mortality based on low certainty of evidence. None of the studies examined controlled for saturated fat intake; therefore, the impact of</p>	<p>Very low</p> <p>Very low</p>

Recommendation	Rating	Supporting Evidence from Systematic Review	Certainty of Evidence (Source of Grading)
		<p>saturated fat consumed from red meat and processed meat on CVD mortality is unclear.</p> <p>In adults, reduced red meat or processed meat intake may reduce incidence of cerebral vascular accident based on low certainty of evidence. None of the studies examined controlled for saturated fat intake; therefore, the impact of saturated fat consumed from red meat and processed meat intake on cerebral vascular accident is unclear.</p> <p>In adults, reduced red meat or processed meat intake may have little to no impact on myocardial infarction based on very low certainty evidence. None of the studies examined controlled for saturated fat intake; therefore, the impact of saturated fat from red meat or processed meat intake on myocardial infarction is unclear.</p> <p>In adults, reduced red meat or processed meat intake likely has little to no impact on CVD. None of the studies examined controlled for saturated fat intake; therefore, the impact of saturated fat from red meat and processed meat on CVD is unclear.</p> <p>In adults, increased intake of red meat and processed meat intake may increase the risk of CHD. None of the studies examined controlled for saturated fat intake; therefore, the impact of saturated fat consumed from red meat and processed meat intake on CHD is unclear.</p> <p>Cheese</p> <p>In adults with or without CVD, there is likely little to no effect of cheese intake on all-cause mortality.</p> <p>In adults with or without CVD, cheese intake may be associated with a lower risk for CHD.</p>	<p>Low</p> <p>Very low</p> <p>Very low</p> <p>Low</p> <p>Very low</p> <p>Moderate</p>

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		<p>In adults with or without CVD, no association was found between cheese intake and ischemic cerebral vascular accident.</p> <p>Milk</p> <p>In adults with or without CVD, no significant association was found between milk intake and all-cause mortality.</p> <p>In adults with or without CVD, total milk intake and low-fat milk intake were not associated with CHD. Full-fat milk intake was associated with an increased risk of CHD.</p> <p>In adults with or without CVD, the association between total milk intake and cerebral vascular accident is not clear.</p> <p>Yogurt</p> <p>The evidence suggests that higher yogurt intake compared to lower yogurt intake results in little to no difference on all-cause mortality.</p> <p>The evidence suggests that higher yogurt intake compared to lower yogurt intake results in little to no difference in CHD.</p> <p>The evidence suggests that higher yogurt intake compared to lower yogurt intake results in little to no difference on incident of ischemic cerebral vascular accident.</p> <p>Butter</p> <p>In adults with or without CVD, a higher intake of butter compared to a lower intake of butter may not be associated with all-cause mortality.</p>	<p>Moderate</p> <p>Low</p> <p>Low</p> <p>Low</p> <p>Low</p> <p>Low</p> <p>Very low</p> <p>Low</p> <p>Low</p>

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		<p>In adults with or without CVD, a higher intake of butter compared to a lower intake of butter may not be associated with an increased risk for any CV-related outcomes.</p> <p>Dairy compared to Nondairy</p> <p>In adults with or without CVD, saturated fat from dairy foods compared to saturated fat from non-dairy foods does not have differing effects on blood pressure.</p> <p>In adults with mild to moderate hypertension, saturated fat intake from dairy foods compared to non-dairy foods may have a beneficial effect on endothelial function based on one RCT with high risk of bias. No studies were identified that evaluated populations with other health conditions.</p> <p>In healthy adults, intake of saturated fat from dairy foods compared to saturated fat from non-dairy foods does not likely have an effect on total cholesterol levels. No studies were identified that evaluated populations with other health conditions.</p> <p>In healthy adults, intake of saturated fat from dairy foods compared to saturated fat from non-dairy foods may slightly increase LDL-C. No studies were identified that evaluated populations with other health conditions.</p> <p>In healthy adults, intake of saturated fat from dairy foods compared to saturated fat from non-dairy foods does not likely have an effect on HDL-C levels. No studies were identified that evaluated populations with other health conditions.</p> <p>In healthy adults, saturated fat intake from dairy foods compared to</p>	<p>Low</p> <p>Moderate</p> <p>Moderate</p> <p>Low</p> <p>Low</p> <p>Low</p> <p>Low</p>

Recommendation	Rating	Supporting Evidence from Systematic Review	Certainty of Evidence (Source of Grading)
		<p>saturated fat intake from non-dairy foods does not likely have an effect on CRP based on one RCT. No studies were identified that evaluated the effect in other populations.</p> <p>Dairy Comparisons</p> <p>In adults at risk for CVD, saturated fat from cheese likely lowers total and LDL-C compared to saturated fat from butter based on limited evidence.</p> <p>In adults at risk for CVD, it is unclear if saturated fat from cheese affects HDL-C differently than saturated fat from butter.</p> <p>In adults at risk for CVD, saturated fat from cheese compared to saturated fat from butter likely has minimal effects on fasting insulin or glucose, based on limited evidence.</p> <p>In adults at risk for CVD, saturated fat from cheese compared to saturated fat from butter has minimal effect on inflammatory markers, based on limited evidence.</p> <p>In adults at risk for CVD, saturated fat from cheese compared to saturated fat from butter likely has minimal effect on blood pressure, based on limited evidence.</p> <p>In moderate hypercholesterolemic adults, saturated fat from cheese compared to saturated fat from yogurt does not have different effects on cholesterol levels or blood pressure, based on results of one RCT.</p>	<p>Very low</p> <p>Very low</p> <p>Low</p> <p>Low</p> <p>Low</p> <p>Very low</p>

C-reactive protein (CRP); Cardiovascular disease (CVD); Coronary heart disease (CHD); High density lipoprotein cholesterol (HDL-C); Low density lipoprotein cholesterol (LDL-C); Randomized controlled trials (RCTs)