

**DANGERS OF TAKING EXCESS MILK**

**MRITUNJAY KULSHRESTHA**

**Scholar M.Sc (Chemistry)**

**MRS Punjab Technical University, Bathinda**

**ABSTRACT :-** As we all know that milk is the primary source of nutrition for human beings, it helps to make healthy body, healthy bones, rebuild muscles are name a few in the series, and lots of more benefits of taking milk can be counted, because it contains all vitamins, fats, carbohydrates, minerals, Which helps in proper development of body. These all are the benefits of taking milk but there are many dangers of taking excess milk, which are generally not known. Some of these dangers of taking excess milk are given below :-

1. Acne
2. Casein sensitivity
3. Acidity or acid reflux
4. Low calcium
5. Low iron absorption
6. Lactose intolerance, and
7. Prostate cancer, are again a few names in the series.

In the research paper, detailed mechanism of these dangers are explained, and the factors which cause these dangers present are also explained in the research paper and ofcourse clarify the procedure to cope up with these dangers or to minimise the dangers.

**INTRODUCTION :-**

To discuss, the dangers of taking excess milk, it is necessary to describe the milk. "Milk is a pale liquid produced by the mammary glands of mammals. It is the primary source of nutrition for infant mammals before they are able to digest other types of food. Early-lactation milk contains colostrum, which carries the mother's antibodies to its young and can reduce the risk of many diseases. It contains many other nutrients"<sup>1</sup> As we know that human beings are taking milk to fulfill the requirement of vitamins,minerals,protien,fats,and carbohydrates etc. "Specially the childrens below 5 years are totally depend on milk,which may be of cow,buffalo,goat,"<sup>2</sup> People above 5 are including milk in their daily meals, because it is well known to all of us that milk contains all nutrients,vitamins,minearls, and can be compared as full meal. Milk has following contentents:

"Nutrient content of milk varieties by serving; 1 serving = 1 cup (8 oz; 244 g). Compiled from the USDA Nutrient Database.

Component	Unit	Whole (3.25% fat)	Skim1	Goat	Sheep	Water Buffalo
Overall Composition						
Water	g	215.50	222.56	212.35	197.72	203.47
Energy	kcal	146	83	168	265	237
Carbohydrate <sup>2</sup>	g	11.03	12.15	10.86	13.13	12.64
Fat	g	7.93	0.20	10.10	17.15	16.81
Protein	g	7.86	8.26	8.69	14.65	9.15
Minerals (Ash)	g	1.68	1.84	2.00	2.35	1.93
Vitamins						
Vitamin A	µg	68	149	139	108	129
Thiamin (Vitamin B1)	mg	0.107	0.110	0.117	0.159	0.127
Riboflavin (Vitamin B2)	mg	0.447	0.446	0.337	0.870	0.329
Niacin (Vitamin B3)	mg	0.261	0.230	0.676	1.022	0.222
Pantothenic Acid (Vitamin B5)	mg	0.883	0.875	0.756	0.997	0.468
Vitamin B6 (Pyridoxine)	mg	0.088	0.094	0.112	0.147	0.056
Vitamin B12 (Cobalamin)	µg	1.07	1.30	0.17	1.74	0.88

Vitamin C	mg	0.0	0.0	3.2	10.3	5.6
Vitamin D	IU	98	100	29	ND3	ND
Vitamin E	mg	0.15	0.02	0.17	ND	ND
Folate	µg	12	12	2	17	15
Vitamin K	µg	0.5	0.0	0.7	ND	ND
Minerals (Ash)						
Calcium	mg	276	306	327	473	412
Copper	mg	0.027	0.032	0.112	0.113	0.112
Iron	mg	0.07	0.07	0.12	0.25	0.29
Magnesium	mg	24	27	34	44	76
Manganese	mg	0.007	0.007	0.044	0.044	0.044
Phosphorus	mg	222	247	271	387	285
Potassium	mg	349	382	498	336	434
Selenium	µg	9.0	7.6	3.4	4.2	ND
Sodium	mg	98	103	122	108	127
Zinc	mg	0.98	1.03	0.73	1.32	0.54
Carbohydrate Detail						
Lactose4	g	12.83	12.47	ND	ND	ND
Fat Detail						
Cholesterol	mg	24	5	27	66	46
Fatty acids, total saturated	g	4.551	0.287	6.507	11.277	11.217
Fatty acids, total monounsaturated	g	1.981	0.115	2.706	4.224	4.360
Fatty acids, total polyunsaturated	g	0.476	0.017	0.364	0.755	0.356
Protein Detail						
Alanine	g	0.251	0.245	0.288	0.659	0.322
Arginine	g	0.183	0.176	0.290	0.485	0.278
Aspartic Acid	g	0.578	0.595	0.512	0.804	0.754

Cystine	g	0.041	0.310	0.112	0.086	0.117
Glutamic Acid	g	1.581	1.649	1.527	2.497	1.164
Glycine	g	0.183	0.123	0.122	0.100	0.195
Histidine	g	0.183	0.184	0.217	0.409	0.190
Isoleucine	g	0.403	0.367	0.505	0.828	0.495
Leucine	g	0.647	0.801	0.766	1.438	0.893
Lysine	g	0.342	0.617	0.708	1.257	0.683
Methionine	g	0.183	0.152	0.195	0.380	0.237
Phenylalanine	g	0.359	0.355	0.378	0.696	0.395
Proline	g	0.834	0.840	0.898	1.421	0.888
Serine	g	0.261	0.412	0.442	1.205	0.554
Threonine	g	0.349	0.201	0.398	0.657	0.444
Tyrosine	g	0.371	0.363	0.437	0.688	0.447
Tryptophan	g	0.183	0.098	0.107	0.206	0.129
Valine	g	0.468	0.441	0.586	1.098	0.534

<sup>1</sup>Vitamin A added.

<sup>2</sup>Carbohydrate determined by difference.

<sup>3</sup>ND = not determined.

<sup>4</sup>Lactose determined by analysis<sup>3</sup>

Above study clearly reveals that milk is full diet but there are some dangers of taking milk like wise, “

### 1. Acne:- “Milk causes acne because...

- There is abundance of a hormone called IGF-1 in milk, which is really good for baby cows, but not for you. IGF-1 is a growth hormone. It makes baby cows grow up big and strong, but in humans, it tends to make your acne grow big instead. IGF-1 is one of several factors that cause inflammation in humans, and which eventually lead to acne (and the ugly redness and swelling that makes acne so annoying).

- Milk and dairy products cause an insulin spike in humans that cause the liver to produce even more IGF-1, leading to even more acne.
- Dairy causes your skin to produce excess sebum (oil), leading to – you guessed it! – more clogged pores, more acne, and a breeding ground for *P. acnes* bacteria, which feed on your sebum and spew out inflammatory by-products.
- Dairy glues together dead skin cells inside your pores, so they can't exit naturally, leading to clogged pores (and thus more acne).

The milk and acne effect is well documented in the literature. In the last decade or so, a number of studies have found a strong link between the consumption of milk and increased occurrence of acne. For example, one such study found that teenage boys who drank milk broke out more often, and more severely, than those who didn't drink milk. At least five other studies have confirmed that, in general, the more milk you drink, the worse acne you'll get."<sup>4</sup>

**2. Casein sensitivity :-** "Casein and Whey these are two types of protein which are present in milk. They both helps in growth and development of our human body. But some people having allergy towards the casein this allergy from the casein is called as the casein sensitivity."<sup>5</sup>

"A casein allergy occurs when your body's immune system mistakenly thinks the protein is harmful and inappropriately produces allergic (IgE) antibodies for protection. The interaction between these antibodies and the specific protein triggers the release of body chemicals such as histamine that cause symptoms which may include:

- Swelling of the lips, mouth, tongue, face, or throat
- Skin reactions such as hives, a rash, or red, itchy skin
- Nasal congestion, sneezing, runny nose, itchy eyes, coughing, or wheezing
  - Allergy to casein in milk is believed to be the leading cause of anaphylaxis outside the hospital setting. People who have asthma in addition to a serious food allergy to an item, such as casein, are at greater risk for worse outcomes if they suffer an exposure and develop an anaphylactic reaction.
  - Symptoms such as swelling inside your mouth, chest pain, hives or difficulty breathing within minutes of consuming a milk product may mean you are experiencing an anaphylactic reaction and need emergency medical attention."<sup>6</sup>

**3. Acidity and acid reflux:-** "In one serving size of milk = 1 cup (8 oz; 244 g) having high content of fat. As we know that when high content of fat will go into our body, then digestion will not so easy and it cause the acidity in our body., Because fat remains in our stomach for long time and it stimulate the stomach to produce the more acid in stomach to digest it. that is

why fat content of milk causes acidity. Details of approximate fat present in the 8oz (244g) of milk are given below”<sup>11</sup> :-

Component	Unit	Whole fat
Fat	g	7.93

“As we see the fat content in milk is high as human body required and if we take excess of milk then our belly become full and when stomach start churning then excess milk in stomach make pressure in stomach wall and covering of the stomach which open the oesophagus in stomach is called as cardiac orifice. Due to pressure it will open and acid, gastric juices present in stomach comes back to oesophagus and burning sensation is felt in thorax side and oesophagus is called as acid reflux reason is only high content of fat present in milk.”<sup>13</sup>

**4. Low calcium :-** “Milk acidifies the body pH which in turn triggers a biological correction. You see, calcium is an excellent acid neutralizer and the biggest storage of calcium in the body is – you guessed it... in the bones. So the very same calcium that our bones need to stay strong is utilized to neutralize the acidifying effect of milk. Once calcium is pulled out of the bones, it leaves the body via the urine, so that the surprising net result after this is an actual calcium deficit. Studies demonstrating that milk and dairy products actually fail to protect bones from fractures outnumber studies that prove otherwise. Even drinking milk from a young age does not protect against future fracture risk but actually increases it. Shattering the “savings account” calcium theory, Cumming and Klineberg report their study findings as follows:

*“Consumption of dairy products, particularly at age 20 years, was associated with an increased risk of hip fracture in old age. (“Case-Control Study of Risk Factors for Hip Fractures in the Elderly”. American Journal of Epidemiology. Vol. 139, No. 5, 1994).”<sup>7</sup>*

**5. Low iron absorption (mostly seen in infants) :-** “Consumption of cow's milk by infants and toddlers has adverse effects on their iron stores, a finding that has been well documented in many localities. Several mechanisms have been identified that may contribute to iron deficiency in this young population group. The most important of these is probably the low iron content of cow milk, which makes it difficult for infants to obtain the amounts of iron needed for growth. A second mechanism is the occult intestinal blood loss associated with cow milk consumption during infancy, a condition that affects about 40% of otherwise healthy infants. Loss of iron in the form of blood diminishes with age and ceases after the age of 1 year. A third mechanism is the inhibition of non-heme iron absorption by calcium and casein, both of which are present in high amounts in cow milk. Fortification of cow milk with iron, as practiced in some countries, can protect infants and toddlers against cow milk's negative effects on iron status. Consumption of cow milk produces a high renal solute load, which leads to a higher urine solute concentration than consumption of breast milk or formula, thereby narrowing the margin of safety during dehydrating events, such as diarrhea. The high protein intake from cow milk may also place infants at increased risk of obesity in later childhood. It is thus recommended that unmodified, unfortified cow milk not be fed to infants and that it be fed to toddlers in modest amounts only.”<sup>8</sup>

- 6.** Lactose intolerance :- “Lactose intolerance means the body cannot easily digest lactose, a type of natural sugar found in milk and dairy products. This is not the same thing as a food allergy to milk.

When lactose moves through the large intestine (colon) without being properly digested, it can cause uncomfortable symptoms such as gas, belly pain, and bloating. Some people who have lactose intolerance cannot digest any milk products. Others can eat or drink small amounts of milk products or certain types of milk products without problems. Lactose intolerance is common in adults. It occurs more often in Native Americans and people of Asian, African, and South American descent than among people of European descent. Lactose intolerance occurs when the small intestine does not make enough of an enzyme called lactase. Your body needs lactase to break down, or digest, lactose. Lactose intolerance most commonly runs in families, and symptoms usually develop during the teen or adult years. Most people with this type of lactose intolerance can eat some milk or dairy products without problems. Sometimes the small intestine stops making lactase after a short-term illness such as the stomach flu or as part of a lifelong disease such as cystic fibrosis. Or the small intestine sometimes stops making lactase after surgery to remove a part of the small intestine. In these cases, the problem can be either permanent or temporary. In rare cases, newborns are lactose-intolerant. A person born with lactose intolerance cannot eat or drink anything with lactose. Some premature babies have temporary lactose intolerance because they are not yet able to make lactase. After a baby begins to make lactase, the condition typically goes away. Symptoms of lactose intolerance can be mild to severe, depending on how much lactase your body makes. Symptoms usually begin 30 minutes to 2 hours after you eat or drink milk products. If you have lactose intolerance, your symptoms may include:

- Bloating.
- Pain or cramps.
- Gurgling or rumbling sounds in your belly.
- Gas.
- Loose stools or diarrhea.”<sup>9</sup>

- 7. Prostate cancer :-** “Researchers are looking, not only at whether milk increases cancer risk, but how. The answer, apparently, is in the way milk affects a man’s hormones. Dairy products boost the amount of insulin-like growth factor (IGF-I) in the blood. In turn, IGF-I promotes cancer cell growth. A small amount is normally in the bloodstream, but several recent studies have linked increased IGF-I levels to prostate cancer and possibly to breast cancer as well. Milk does other mischief. Its load of calcium depletes the body’s vitamin D, which, in turn, may add to cancer risk. Most dairy products are also high in fat, which affects the activity of sex hormones that play a major role in cancer. And it would come as no surprise that milk might affect the growth of cancer cells. After all, its biological purpose is to support rapid growth in all parts of a calf’s body. After the age of weaning, calves (like all mammals) have no need for milk at all, and there is never a need to drink the milk of another species. Researchers are investigating whether dairy products might be culprits in other forms of the disease.”<sup>10</sup>

**Conclusion and solution for removing dangers from excess milk** :- “there may be so many solutions , which we can suggest to avoid the dangers from milk. as are given below :-

1. **For avoiding acne and prostate cancer** :- In milk there is a factor which is present in milk is reason for the prostate cancer and acne is IGF-1 hormone(insuline like growth factor). Which is produced more by BST(bovine somatotrophin) injection. So before taking milk make ensure that milk is not having IGF-1 hormone or from which cow milk is taken should not be vaccinated from BST hormone. Take more and more fibrous items like tomatoes, watermelons, and other bright red fruits contain lycopene, which reduces cancer risk.
2. **For avoiding casien sensitivity** :- In milk there is a factor which cause allergic reaction like anaphylaxis so cope up with this there are many other milks which are Soy milk, Almond milk, Rice milk. These are the milk which do not having casein in it so these will not cause any type of casein sensitivity.
3. **For avoiding acidity and acid reflux** :- Milk have high content of fat which lead to the acidity and acid reflux in our body so to cope up with the acidity and acid reflux we will take skimmed milk which having low content of fat in it as given below in our table<sup>14</sup> :-

Component	Unit	Whole fat	Skim
Fat	g	7.93	0.20 <sup>15</sup>

4. **For avoiding low calcium** :- “If we take whole fat milk then it causes acidity and to neutralise it calcium is start delpleting from our bones so to cope up with this problem we can take skimmed milk because it having low fats so not cause acidity so calcium remain as such in bones and milk calcium will be absorbed by the bones. Detail of amount of calcium is given below in table<sup>16</sup> :-

Component	Unit	Whole fat	Skim
Calcium	mg	276	306 <sup>17</sup>

5. **For avoiding low iron (mostly in infants)** :- “When infants take milk then intestinal bleeding occur due this blood is losed and anemia is caused so to cope up with this problem if we will give iron suppliments so iron deficieny will not be happen and do not give excess of milk to infants
6. **For avoiding lactose intorlance** :- The peoples which having intorlance to lactose or they are unable to digest lactose will advised to lactose free milk or having very less amount of the lactose in it .

AS we know that milk is having all nutrients and minearls, required by the body irrespective of our age their for it is very much necessary that milk should be taken as food suppliment only but not as a



whole food in other words our variety routine food should not be avoided but instead whatever the required nutrients which we are not getting from variety of routine foods may be supplemented from milk."<sup>18</sup>

References (1) Pehrsson, P.R.; Haytowitz, D.B.; Holden, J.M.; Perry, C.R.; Beckler, D.G. (2000). "USDA's National Food and Nutrient Analysis Program: Food Sampling" (PDF). *Journal of Food Composition and Analysis*. **13** (4): 379–389. doi:10.1006/jfca.1999.0867. Archived from the original (PDF) on April 7, 2003

(2) *Field Investigation*.

(3) <http://milkfacts.info/Nutrition%20Facts/Nutrient%20Content.htm#Tab2>

(4) **by Devin Mooers** clearskinforever a revolutionary, holistic approach to curing acne

(5) *Field Investigation*.

(6) by Jennifer Robinson, © 2015 WebMD, LLC.

(7) Vivian joldachmidt {save our bones (save institute)}

(8) Fomon Infant Nutrition Unit, Department of Pediatrics, University of Iowa, Iowa City, Iowa, USA. ekhard-ziegler@uiowa.edu

(9) ByHealthwise Staff Primary Medical Reviewer E. Gregory Thompson, MD - Internal Medicine  
Specialist Medical Reviewer Rohit K Katial, MD - Allergy and Immunology

(10) Cohen P. Serum insulin-like growth factor-I levels and prostate cancer risk—interpreting the evidence. *J Natl Cancer Inst*. 1998;90:876-879. and Cadogan J, Eastell R, Jones N, Barker ME. Milk intake and bone mineral acquisition in adolescent girls: randomised, controlled intervention trial. *BMJ*. 1997;315:1255-1260. And Heaney RP, McCarron DA, Dawson-Hughes B, et al. Dietary changes favorably affect bone remodeling in older adults. *J Am Dietetic Asso*. 1999;99:1228-1233.

(11) *Field Investigation*

(12) <http://milkfacts.info/Nutrition%20Facts/Nutrient%20Content.htm#Tab2>

(13) *Field Investigation*

(14) *Field Investigation*

(15) <http://milkfacts.info/Nutrition%20Facts/Nutrient%20Content.htm#Tab2>

(16) *Field Investigation*

(17) <http://milkfacts.info/Nutrition%20Facts/Nutrient%20Content.htm#Tab2>

(18) *Field Investigation*

**Bibliography** :- Wikipedia, Webmd, Clearskinforever, Pcrm, Saveourbones, Ncbi, Peta