



Review of Literature of Ratio of Milk Consumption in College Students of Pakistan and From Other Parts of Theasia

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I. INTRODUCTION:

Milk is particularly nourishing liquid produced for the survival and nourishment of the newborn from the mammary glands of mammals. Milk provides a rich amount of protein and is a source of it. Milk provides many other nutrients (macro and micro) like; carbohydrates, fats, vitamin D, Vitamin B12, calcium, potassium, riboflavin etc. The most common types of milk being ingested are; cow milk, buffalo milk, camel milk and goat milk.(1)

Raw milk comes from clinically healthy cows; it might still be contaminated with pathogens. Hence milk is pasteurized; Pasteurization is the process of heating every particle of milk or milk product to any one of the specified pasteurization time/temperature combinations, in properly designed and operated equipment. The most popular pasteurization procedure involves quickly heating milk to a minimum temperature of 72°C and maintaining that temperature for at least 15 seconds. These time-temperature combinations are intended to eradicate all human pathogens. Milks that are subjected to higher heat treatments (such as 138°C for 2-4 seconds) in certain countries are referred to as ultra-pasteurized; if the process is carried out aseptically, the milk can be stored at room temperature; in this case, the product is referred to as ultra-high temperature (UHT). One of an anomalous immune system response is milk allergy that often people face, from the protein of milk. Patients with cow's milk protein allergy may experience an immunoglobulin E-mediated response.(1) This allergy typically passes through the first year of life in young infants. The signs and symptoms of milk allergy are as followed coughing, vomiting, hives, wheezing, itching or tingling of the mouth area or even anaphylaxis. Some may experience a reaction when their body cannot digest or break down lactose, which is known as lactose intolerance. One type of sugar included in milk and milk products is lactose. This is a milder form of response as compared to milk allergy where the symptoms include cramps and pain in the abdominal region, bloating, gas, and diarrhea.

The shift from adolescent to young adulthood is marked by a general decline in food quality, which includes a fall in calcium intake. The average daily intake of calcium in the particular young adult group of college students ranges from 820 to 1,052 mg, which is consistently less than the recommended daily allowance for calcium. Regretfully, the unhealthy eating patterns that contribute to this downward trend can endure into later adulthood and could have a severe impact on long-term health. Behavioral factors that are external (e.g., decreased availability of healthy foods) and personal (e.g., attitude that healthy eating is inconvenient) can both contribute to college students' overall poor dietary intakes. (2)

The purpose of this review literature is to compare the ratio of consumption of milk of college students in Pakistan and other parts of the world (Turkey, Malaysia and Iran)

II. METHODOLOGY:

A study design, done in Pakistan, was cross-sectional; two hundred individuals aged 10-24 years were selected via convenient sampling. The study provided that 152(76%) sample consumed milk once daily 298±234.90ml and 48(24%) did not consumed milk. Results concluded that the consumption of milk and milk products among young people was low as compared to the recommended dietary allowances; thus a need to provide knowledge regarding the importance of milk consumption to assist in reducing bone health disorders. (4) A pre-post-test study was conducted and 153 students were selected from three institutions of Lahore city, Pakistan. The age ranged from 20-22 years students, The mean score of correct answers of KAP (knowledge, attitude and practices) questionnaire was (6.75±2.26) at pre-test and mean score of correct answers of first post testing was (23.81±2.49) and the mean score after second post testing was (23.79±2.58). Results indicated that there was significant increase ($P > 0.05$) in KAP (knowledge, attitude and practices) of students after nutrition intervention. While the results of two post testing showed that there was no significant difference ($p = 0.732$) in overall KAP score of participants. Results of food frequency



tables showed that consumption of fresh milk and milkshake was increased after nutrition education intervention. In conclusion, the study showed that nutrition education interventions were effective in improving the KAP of students regarding milk consumption patterns. (3) A study was conducted for the female consumers in Mirpur, Pakistan. There were 130 participants and 75(58%) were educated while 55(42%) were uneducated, all female. About 58% of study participants consume milk regularly as compared to 42% who were not taking milk regularly. (5)

In Malaysia, looking at consumption of milk in college students a study was done. In this study 351 students from Shahr-e Kord University of Medical Sciences were selected as the sample. The results showed that 44.2% of participants aged 18-20 years and 79.5% of them were a bachelor student. In terms of gender, 58.4% of participants were female and 41.6% of them were male. 45.9% of male students and only 12.7% of females used dairy products every day. 13.7% female students and 19.2% male students used dairy products every other day, 20% female students and 18.5% male students used dairy products every two days, and 36.1% female students and 34.9% male students used dairy products once a week. In addition, 21% female students and 11.6% male students used milk and dairy products at all. 87.3% of females and 54.1% of males did not daily consumption of dairy. (6)

In Iran, cross-sectional study was conducted on 385 students of Yazd University of Medical Sciences in 2014. The participants had the average age of 22.13 ± 3.47 years, who were in the age range of 18-38. Among the participants, 65.2% were females and 18.4% were married. The study results showed that 66% of the students had milk consumption. Among those who took milk daily, 85.4% consumed a glass of milk and 14.6% had two glasses per day. Most students used milk with breakfast (55%), 25% as a snack, and 20% before sleep. 71.1% of male and 62.2% of female students consumed milk. The most positive behavioral belief was shown to be the belief that milk consumption reduces the osteoporosis (44.7%) and the most negative attitude towards milk consumption was the unpleasant taste of milk (27.8%). (7)

The present study was conducted, in Turkey, to investigate the milk and dairy product consumption of 361 randomly selected students from Ondokuz Mayıs University (OMU). The rate of students who were consuming milk was 86.43% (86.14% in females, 86.79% in males, $P=0.980$), the rate of students who were consuming one glass

of milk daily was 92.35% (94.47% in females, 89.61% in males, $P=0.201$) and the rate of students who were consuming milk daily was 18.28% (19.80% in females, 16.35% in males, $P=0.400$). Of the students who do not drink milk, 71.59% (65.77% in females, 78.69% in males, $P=0.134$) stated that they did not have any reason for not consuming milk, or they did "not have the habit of drinking milk. Packaged milk (UHT, sterilized, pasteurized) was being consumed more (60.23%) than non-packaged milk (39.77%) ($P=0.001$). Female students (80.30%) and male students (79.74%) were found to prefer dairy products to milk ($P=0.896$). In conclusion, it was determined that generally, OMU students had a good level of milk and dairy product consumption. However, in particular, students' regular daily milk consumption habits were insufficient. Also, gender was found to influence preferences and consumption habits. (8)

III. DISCUSSION:

Milk consumption among university students is influenced by various factors, including cultural norms, dietary preferences, and awareness of health benefits. A comparative analysis of milk consumption among Pakistani, Iranian, Turkish, and Malaysian university students reveals intriguing insights into gender disparities, the impact of educational interventions, and the factors influencing milk consumption. (9) Research indicates that male university students tend to consume more milk than their female counterparts across different cultural contexts. This pattern is observed among Pakistani, Iranian, Turkish, and Malaysian students, reflecting a consistent pattern of higher milk consumption among male students. The reasons behind this gender disparity are multifaceted and may be influenced by cultural norms, dietary habits, and nutritional awareness. Educational interventions have demonstrated a significant impact on milk consumption among university students. In various cultural settings, increasing awareness about the nutritional benefits of milk has positively influenced students' consumption habits. This effect is particularly notable in cases where students are educated about the role of milk in reducing the risk of osteoporosis and other diseases. (9)

The reasons for milk consumption or non-consumption among university students vary across different cultural contexts. While some students consume milk as a proactive measure to decrease the risk of osteoporosis and other health conditions, others may refrain from consuming milk due to personal taste preferences or perceptions about its flavor. Understanding these nuanced factors is



essential for developing targeted interventions to promote milk consumption among university students. (10) Cultural norms and dietary practices significantly influence milk consumption patterns among university students. For example, in Pakistan, where dairy products hold cultural and culinary significance, milk consumption is deeply ingrained in dietary habits. In Iran, traditional dairy products are integral to the cuisine, potentially impacting milk consumption behaviors. In Turkey and Malaysia, cultural factors such as culinary traditions and taste preferences may shape students' attitudes towards milk consumption. These cultural nuances contribute to the variability in milk consumption across these student populations. (10)

IV. CONCLUSION:

The comparative analysis of milk consumption among university students from Pakistan, Iran, Turkey, and Malaysia underscores the presence of gender disparities, meaning the findings of the study shed light on the significant role of milk consumption among university students, with male students demonstrating a higher preference, the impact of educational interventions, and the influence of cultural factors on consumption habits. Addressing these variations through tailored educational programs and culturally sensitive approaches can promote equitable and informed milk consumption habits among university students. Therefore, efforts to promote milk consumption and enhance nutritional awareness among students can have far-reaching benefits in reducing the risk of diseases associated with inadequate nutritional intake.

REFERENCES:

- [1]. Lucey, J.A. (2015) 'Raw Milk Consumption', *Nutrition Today*, 50(4), pp. 189–193. doi:10.1097/nt.000000000000108.
- [2]. Rose, A.M. et al. (2018) 'Determining attitudinal and behavioral factors concerning milk and dairy intake and their association with calcium intake in college students', *Nutrition Research and Practice*, 12(2), p. 143. doi:10.4162/nrp.2018.12.2.143.
- [3]. Maryam, F., Chughtai, A. and Iqbal, S. (2019) 'Impact of nutrition education interventions on milk consumption among students (age 20-22 years)', *Life Science Journal of Pakistan* [Preprint]. doi:10.
- [4]. Sohail, Z. (2021) 'Consumption of milk and milk products among young people of Pakistan; Cross Sectional Study', *Pakistan Journal of Public Health*, 11(3), pp. 166–171. doi:10.32413/pjph.v11i3.789.
- [5]. Ali, I. et al. (2022) 'Attitudes, beliefs and practices regarding consumption of milk and milk products among female consumers in Mirpur, A.J.K.', *Pakistan Journal of Medical and Health Sciences*, 16(2), pp. 90–92. doi:10.53350/pjmhs2216290.
- [6]. *Malaysian Journal of Medicine and Health Sciences (EISSN 2636-9346) 4 environmental and Occupational Health Program, School of Health Sciences | Request PDF. Available at: https://www.researchgate.net/publication/355058320_Malaysian_Journal_of_Medicine_and_Health_Sciences_eISSN_2636-9346_4_Environmental_and_Occupational_Health_Program_School_of_Health_Sciences (Accessed: 06 June 2024).*
- [7]. Baghianimoghadam, M.H., Rahimi, T. and Khajedehi, Z. (2016) 'Factors Associated with Milk Consumption among College Students of Yazd University of Medical Sciences Based on Theory of Planned Behavior', *Journal Of Community Health Research*, 5(01).
- [8]. GÜLER, H. et al. (2021) 'Milk and dairy product consumption habits of university students in Turkey', *Erciyes Üniversitesi Veteriner Fakültesi Dergisi*, 18(3), pp. 173–181. doi:10.32707/ercivet.1015790.
- [9]. A., M.H.B. (no date) Consumption of milk and dairy products and risk of osteoporosis and hip fracture: A systematic review and meta-analysis, *Critical reviews in food science and nutrition*. Available at: <https://pubmed.ncbi.nlm.nih.gov/30909722/> (Accessed: 06 June 2024).
- [10]. Rouhani-Tonekaboni N; Ashouri A; Mehrabian F; Mahdavi-Roshan M; Farmani-Ghasbeh N; Kasmaei P; Kamalikhah T; (no date) Stages of dairy product consumption among Iranian female high school students based on transtheoretical model: The case of osteoporosis prevention, *Nutrition and health*. Available at: <https://pubmed.ncbi.nlm.nih.gov/36221981/> (Accessed: 06 June 2024).