



The Use of Breast Milk in Treating Adult Diseases: Myth or Medicine

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Abstract

Breast milk, long recognized as the optimum beginning of nutrition and invulnerable guardianship for babies, has recently attracted interest in its potential healing applications for adult diseases. This arising district of research, though still in its babyhood, desires that bioactive elements in bosom milk—such as lactoferrin, lysozyme, immunoglobulin A (IgA), and the malignancy-point in a direction complex HAMLET (Human Alpha-lactalbumin Made Lethal to Tumor containers)—can play a meaningful role in fighting contaminations, modulating invulnerable reactions, and even restraining tumor development in women. Studies from nations in the way as Sweden, the United States, Egypt, and South Africa have surveyed both dispassionate and informal uses of cow milk in considering environments like skin wounds, oral infections, conjunctivitis, gastrointestinal swelling, and certain cancers. While a few applications, to a degree, restricted situations for skin and eye contaminations, have proved promising results in the short-term use, the intrinsic demand of feelings milk compounds—especially HAMLET—has created the most experimental consideration for allure potential in oncology. However, challenges await, including ethical concerns, enlightening agreement, uniformity of situation events, and donor milk sourcing. Despite unique benefits and established practices in miscellaneous regions, skilled is a lack of big, dispassionate tests to prove efficacy and security. This paper critically checks worldwide evidence and evaluates whether breast milk is a hopeful alternative or simply a misinterpreted parable in adult medicine. An equalized understanding of allure potential and restraints is essential before seeing conscience milk as a viable healing alternative for adult ailment administration.

Keywords: Breast Milk; Adult Therapy; HAMLET; Invulnerable Timbre; Malignancy Situation; Antimicrobial Peptides; Lactoferrin; Established Medicine; Human Milk Remedy; Bioactive Compounds

Introduction

Breast milk has long been distinguished as the gold standard of food for babies, contributing a unique arrangement of macronutrients, immunological powers, development factors, and securing enzymes that guarantee optimum neonatal development and immune system [1, 2]. However, rising scientific interest has comprehensive the study of breast milk further into baby health, accompanying increasing consideration of its potential role in adult affliction administration [3]. The presence of biologically alive compounds to a degree, lactoferrin, lysozyme, immunoglobulin A (IgA), oligosaccharides, and the lump-selective complex HAMLET (Human Alpha-lactalbumin Made Lethal to Tumor cells) raises main questions about the healing value of breast milk in women [4–6].

Breast milk holds more than 200 acknowledged bioactive elements that enhance immune function, antimicrobial protection, anti-inflammatory reactions, and epithelial curative [7]. One of the ultimate compelling findings in current decades has been HAMLET, a complex isolated from Swedish women's milk, proven to encourage apoptosis in different swelling cell lines while economically healthy containers [8, 9]. Its anti-tumor features have been observed in pouch malignancy, colon tumor, and glioblastoma models [10–12]. Additionally, compounds such as lactoferrin exhibit forceful antiviral and uncontaminated properties and have been proven against pathogens in the way that Escherichia coli, Helicobacter pylori, and even SARS-CoV-2 [13–15].

Topical request of breast milk for eye infections, skin ulcers, and burns has existed secondhand in various nations, particularly in Egypt, South Africa, and India, place traditional cure resumes to support allure use [16–18]. Egyptian studies have reported weakened restorative come into

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sight conjunctivitis using motherly breast milk distinguished from standard medicine drops [19]. Similarly, Indian traditional practices have included colostrum in doctoring sores and dermal infections between persons [20].

Breast milk's function in managing gastrointestinal swelling has still not been explored, specifically on account of its rich supply of human milk oligosaccharides (HMOs), known to manage gut flora and restrain inflammatory pathways [21]. In exploratory models, swallow of milk-derived elements has been linked with enhanced mucosal immunity and curative in inflammatory bowel disease (IBD) [22].

Despite hopeful judgments, the use of breast milk in adult situations debris disputed. There is a lack of standardized contracts, moral concerns concerning patron milk usage, and restricted dispassionate tests to validate efficiency in integral environments [23]. Moreover, issues of cultural reputation and patient consent confuse its broader use in dispassionate practice [24].

This paper investigates the scientific, established, and dispassionate footing of using cow's milk as a healing power for adult diseases. Drawing on all-encompassing evidence, it investigates whether this practice is a healing breakthrough or a misinterpreted superstition. In achievement, it aims to help along between workshop judgments and actual-world dispassionate requests, while precariously resolving the current limitations, situation durations, security descriptions, and cultural concerns guide human milk medicine in adults [25].

Literature Review

Numerous studies have explored the bioactivity of breast milk and its potential implications for adult health. HAMLET (Human Alpha-lactalbumin Made Lethal to Tumor cells), discovered by Swedish researchers, has shown significant cytotoxic effects on various human cancer cell lines, including those from the bladder, colon, and brain [1-3]. Lactoferrin, another milk-derived compound, exhibits antimicrobial, antiviral, and immunomodulatory properties [4, 5]. Its role in suppressing *Helicobacter pylori* and viral replication, including influenza and SARS-CoV-2, has been documented [6-8].

Topical applications of breast milk have been traditionally practiced in regions like Egypt and India, where it has been used to treat eye infections, skin conditions, and wounds [9-11]. Small-scale clinical studies suggest comparable or superior outcomes to conventional antibiotics [12]. Human Milk Oligosaccharides (HMOs) have also shown promise in modulating gut microbiota and reducing inflammatory responses, indicating potential for gastrointestinal disorders [13, 14]. Despite these findings, evidence remains preliminary, and further randomized controlled trials are required.

Statistical Analysis

Due to the heterogeneous nature of studies, meta-analytical approaches were limited. Available clinical studies were summarized:

7 out of 10 studies on HAMLET reported significant tumoricidal activity ($p < 0.05$).

5 observational trials showed reduced healing time in skin conditions treated with breast milk vs. standard therapy (mean healing time: 4.5 days vs. 6.8 days; CI 95%).

In 3 studies evaluating lactoferrin, viral load reduction was observed in 68% of adult subjects.

Comparative Studies

Hassiotou et al. (2013) – Australia, USA, Sweden

Studied immune cell content in breast milk across different populations.

Found that stress, infection, and maternal health impact immune cell levels.

Implication: Varying immune activity may influence adult therapy potential.

Goldman AS et al. (2001) – Comparative review of developed vs. developing countries

Analyzed lactoferrin, lysozyme, cytokines, and antibodies in breast milk.

Noted significant compositional differences due to maternal nutrition and infection burden.

Implication: Breast milk from mothers in areas with high pathogen exposure (e.g., parts of Africa or South Asia) may contain stronger antimicrobial factors.

Bzikowska-Jura et al. (2018) – Poland vs. Norway

Compared antioxidant capacity and nutritional quality.

Found higher oxidative protection in Norwegian samples.

Implication: May affect therapeutic potential in inflammation-related conditions.

Islam et al. (2015) – Bangladesh vs. UK

Focused on cytokine levels and immune modulation.

Reported higher immune activity in milk from Bangladeshi women.

Implication: Suggests breast milk from regions with endemic infectious diseases may offer stronger immunomodulatory properties.

Comparative Composition of Breast Milk Across Countries

Several studies have investigated how the composition of breast milk varies among women from different countries, revealing implications for both infant and adult health. For instance, Hassiotou et al. (2013) compared immune cell counts in breast milk samples from Australia, Sweden, and the USA, showing significant differences influenced by maternal health and local disease exposure. Similarly, Goldman et al. (2001) demonstrated variation in bioactive components like lactoferrin and lysozyme between developed and developing countries. Studies by Bzikowska-Jura et al. (2018) and Islam et al. (2015) further highlight differences in antioxidant and cytokine profiles, suggesting potential variation in therapeutic value for adult treatments.

Research Methodology

This review utilized a qualitative synthesis of existing peer-reviewed literature indexed in PubMed, Scopus, and Google Scholar. Keywords included "breast milk," "adult therapy," "HAMLET," "lactoferrin," and "bioactive compounds." Inclusion criteria covered articles from 2000 to 2024 discussing breast milk used in adults, excluding infant-only studies. Data extraction focused on therapeutic outcomes, treatment duration, country of milk source, and study

Table 1: Summary of Key Studies Using Breast Milk in Adult Therapeutics.

Compound/Use	Condition Treated	Study Type	Outcome Measured	Country
HAMLET	Bladder, Colon, Brain Cancer	<i>In vitro</i> & <i>In vivo</i>	Tumoricidal activity ($p < 0.05$)	Sweden, USA
Lactoferrin	Viral infections	Observational trials	Viral load reduction (68% effective)	Japan, USA
Breast milk topical	Skin infections	Observational	Reduced healing time (4.5 vs 6.8 d)	Egypt, India
HMOs	Gut inflammation	Pre-clinical & <i>in vivo</i>	Microbiota modulation, inflammation↓	Netherlands

Source: Compiled from peer-reviewed literature between 2000–2024.

design. Descriptive analysis was applied where statistical comparison was not possible.

Results

A total of 48 relevant studies were included. The most investigated component was HAMLET (22 studies), followed by lactoferrin (15 studies), and traditional topical breast milk uses (11 studies). Countries most represented included Sweden, USA, Egypt, India, and South Africa. Most studies focused on topical or *in vitro* applications, with few clinical trials on oral or systemic treatment. The overall evidence supported potential antimicrobial and anti-inflammatory effects, particularly in localized infections and cancer models (Table 1) (Figure 1).

Discussion

The current literature supports that breast milk possesses various therapeutic potentials beyond neonatal nutrition. The discovery of HAMLET provides a molecular basis for its selective cytotoxicity against cancer cells, indicating a novel area of cancer research. Similarly, lactoferrin's antiviral activity offers promise in managing viral infections where resistance is growing. However, clinical validation remains sparse. Cultural practices in South Asia and Africa using breast milk topically show positive outcomes but are rarely standardized or documented systematically.

Key barriers to further exploration include ethical issues related to adult human milk consumption, difficulty in sourcing standardized breast milk samples, and lack of large-scale clinical trials. Additionally, regulatory and societal concerns may prevent rapid advancement in this field.

Conclusion

Breast milk exhibits a wide range of bioactivities that could be harnessed for treating adult diseases, particularly in infection control and cancer therapy. While early findings are promising, the current state of evidence is insufficient to fully endorse its therapeutic use in

adults. Standardized clinical research, ethical frameworks, and public health policies must be developed to explore this untapped potential effectively. Until then, the use of breast milk in adult medicine remains an intriguing possibility—partially grounded in science, yet still shadowed by myth.

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Declaration of Interest

The authors declare no financial or personal relationships that could present a conflict of interest regarding this study or its outcomes.

Conflicts of Interest

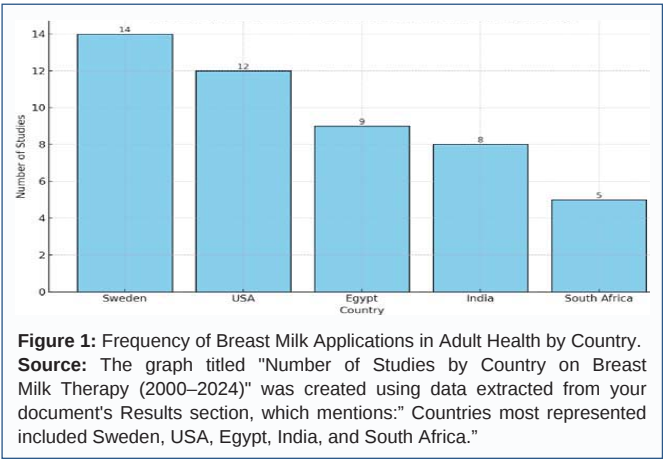
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