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XVII Giornate Pediatriche Salernitane

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La Scuola Medica Salernitana e le altre:

Le basi dell'igiene moderna nella Scuola Medica Salernitana

Dott.ssa Simona Pisanti

Dipartimento di Medicina Chirurgia e Odontoiatria 'Scuola Medica Salernitana'
Università di Salerno

Facoltà di Medicina erede della tradizione millenaria della Scuola Medica Salernitana

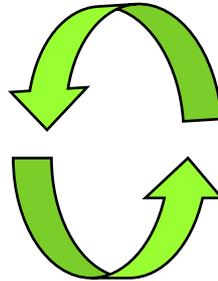
L'Università di Salerno, pur non rappresentando la continuazione storica della Scuola Medica Salernitana, ha sempre guardato ad essa come ad una parte fondante della propria tradizione ideale e culturale



La Scuola Medica Salernitana

-Due cronache del secolo X, *Historia inventionis ac translationis et miracela Sancte Trophimeneae* e la *Historia* di Richero di Reims, evidenziano l'esistenza dell'Istituzione.

- Costituzione di Melfi 1231 (Federico II)
- Studium in medicina 1280 (Carlo D'Angiò)
- 1811 (Gioacchino Murat)



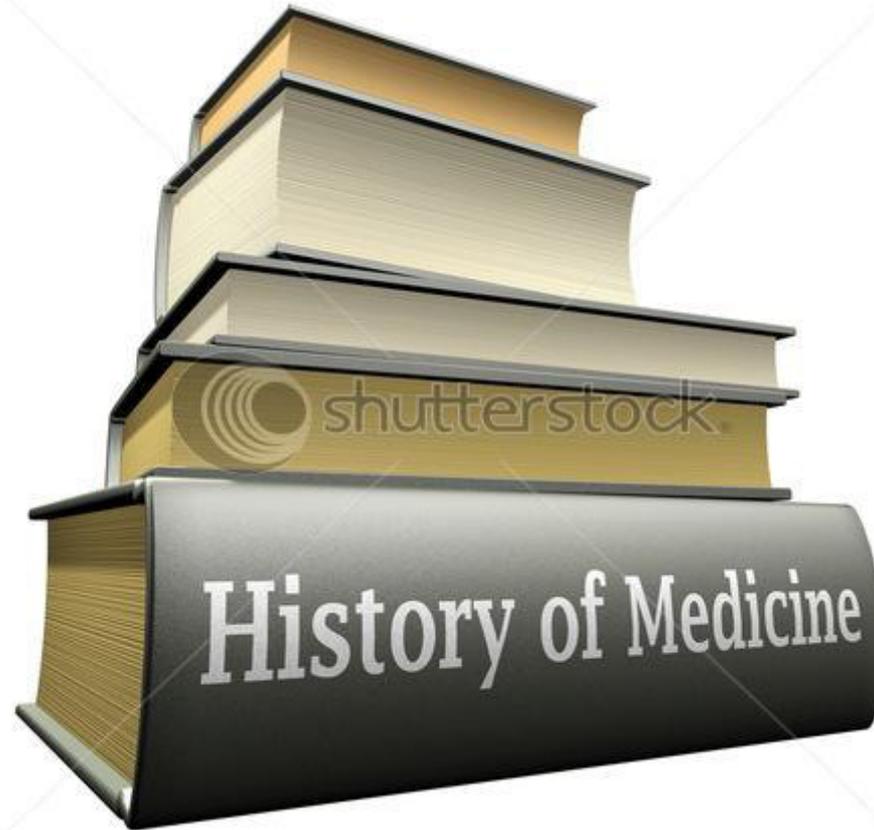
La nuova Facoltà di Medicina di Salerno



Insegnamento di Storia della Medicina presso cdl Medicina e Odontoiatria

UNITA' DI RICERCA di Storia della Medicina
Prof. Maurizio Bifulco
Dott.ssa Simona Pisanti

Importanza della Storia della Medicina



Publicazioni



1. M. Bifulco M., P. Cavallo **“Thyroidology in the medieval medical school of Salerno”** *Thyroid* (2007) 17(1):39-40
2. P. Cavallo, M. C. Proto, C. Patruno, A. D. Sorbo, M. Bifulco. **“The first cosmetic treatise of history. A female point of view”** *Intern. Journ. Cosmetic Science* (2008), 30(2):79-86. 1–8.
3. M. Bifulco, M. Marasco, S. Pisanti **“Dietary recommendations in the medieval Medical School of Salerno:a lesson from the past”** *Am. Journ. Prev. Med.* (2008), 35(6):602-3.
4. Bifulco M, Ciaglia E, Marasco M and Gangemi G **“A focus on Trotula de’ Ruggiero: a pioneer in women and children health in history of medicine”** *J Matern Fetal Neonatal Med* (2013) 27(2):204-5
5. Bifulco M, Capunzo M, Marasco M, Pisanti S **“The basis of the modern medical hygiene in the medieval Medical School of Salerno”** *J Matern Fetal Neonatal Med* (2015);28(14):1691-3.
6. Bifulco M, Amato M, Gangemi G, Marasco M, Caggiano M, Amato A, Pisanti S. **“Dental care and dentistry practice in the Medieval Medical School of Salerno “** *Br Dental J* (2016) *in press*

EDUCATION AND DEBATE

The basis of the modern medical hygiene in the medieval Medical School of Salerno

Maurizio Bifulco, Mario Capunzo, Magda Marasco, and Simona Pisanti

Department of Medicine and Surgery, University of Salerno, Baronissi, Italy

Abstract

The link between hygiene and the concept of transmission of infective diseases was established earlier than the birth of microbiology, thanks to the studies of two neglected physicians of maternity clinic, Ignác Fülöp Semmelweis and Oliver Holmes, in the mid-1800s. Surprisingly, centuries earlier, a medieval women physician, Trotula de Ruggiero, introduced for the first time the notion of diseases' prevention, highlighting the importance of the association of personal hygiene, balanced nutrition and physical activity for better health. Moreover, she was particularly concerned of hands hygiene for the midwives during child birth, to preserve the good health of both the mother and the baby. She practiced inside the medieval Medical School of Salerno, whose main text, the "Regimen Sanitatis Salerni" has an entire part dedicated to hygiene, providing hygienic precepts that anticipate the concepts derived from the revolutionary discoveries in medical science only centuries later.

Keywords

Hand hygiene, hygiene, Medical School of Salerno, prevention, trotula

History

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It is out of doubt that the improvement of hygiene procedures is a key strategy, strongly encouraged by national and international authorities (e.g. WHO), to reduce the transmission of pathogens and hence to promote good health. In this perspective, the WHO guidelines on hand hygiene treat the important and still neglected issue of hand-washing to prevent the spread and incidence of infective diseases, in particular, of health care-associated infections that concern 5–15% of hospitalized patients and are dangerously increasing, with a negative impact on patient's health but also on health expenditure and on the development of increased resistance of microorganisms to antimicrobials [1–3].

The issue has to be treated also from an anthropologic and historical point of view, since personal hygiene is not only a factor that contributes to human health, but also a part of religious and cultural habits that characterize the behavior of specific populations. Looking at the past, the link between hygiene, in particular hands' hygiene, and the concept of transmission of infective diseases was surprisingly established earlier than the discoveries of Pasteur and Lister, milestone of the medical sciences, gave rise to the bacteriology and subsequent evidence that infectious diseases are caused by pathogenic germs [4,5]. Indeed, in the mid-1800s in Vienna,

the Hungarian physician Ignác Fülöp Semmelweis, particularly concerned of the high mortality due to puerperal fever, had a brilliant deduction following the death of his colleague Jacob Kolletschka, who died of a febrile illness very similar to puerperal fever, after a scalpel injury during an autopsy. Semmelweis experimented that the high incidence of puerperal fever could be drastically reduced if doctors and students washed their hands in a chlorinate solution before every contact with the patients, particularly after the autopsies. This practice, even if at that time was accepted with difficulty, led to a dramatic reduction of the mortality rate in the obstetric clinic due to puerperal fever [6,7]. Several years before, in Boston, Oliver Wendell Holmes in the essay "The contagiousness of puerperal fever" resolved, following a deductive pathway similar to Semmelweis, that the cause of the high incidence of puerperal fever was indeed due to the patient-patient indirect contact through their common physicians [8]. Both these physicians applied successfully antiseptic procedures in the clinical setting, even if their innovative ideas were obstructed and derided by the medical community and opposed by eminent professors of obstetrics, who drastically rejected the heretical notion that puerperal fever was transmitted by medical personnel through direct physical contact. Less known is that eight centuries earlier than Semmelweis in Vienna and Holmes in Boston, there was in Italy, in the medieval city of Salerno, a famous women physician and obstetrician, maybe the first in the history and surely the most famous among the "mulieres salernitanae", whose name was Trotula De Ruggiero, who applied hygiene precepts and good clinical practice in her work exerted inside



Address for correspondence: Maurizio Bifulco, Simona Pisanti, Department of Medicine and Surgery, University of Salerno, Baronissi, Italy. Tel: +39 089969742 (M.B.); +39 089968119 (S.P.). E-mail: maubiful@unisa.it (M.B.); spisan@unisa.it (S.P.)

Storia dell'igiene delle mani

1822
Soluzioni
clorinate

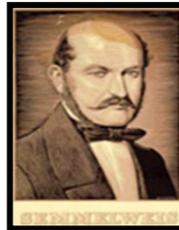
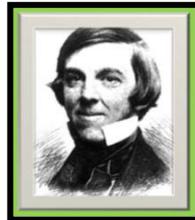
1961
US Health Service
Lavare mani
prima e dopo
contatto pazienti

2009
OMS Linee
guida

800-1000
Scuola
Medica
Salernitana

1843 e 1846
Holmes e
Semmelweis

1975 1985 1988
1995 1996
Linee guida
ospedaliere



Semmelweis: il “salvatore delle madri”



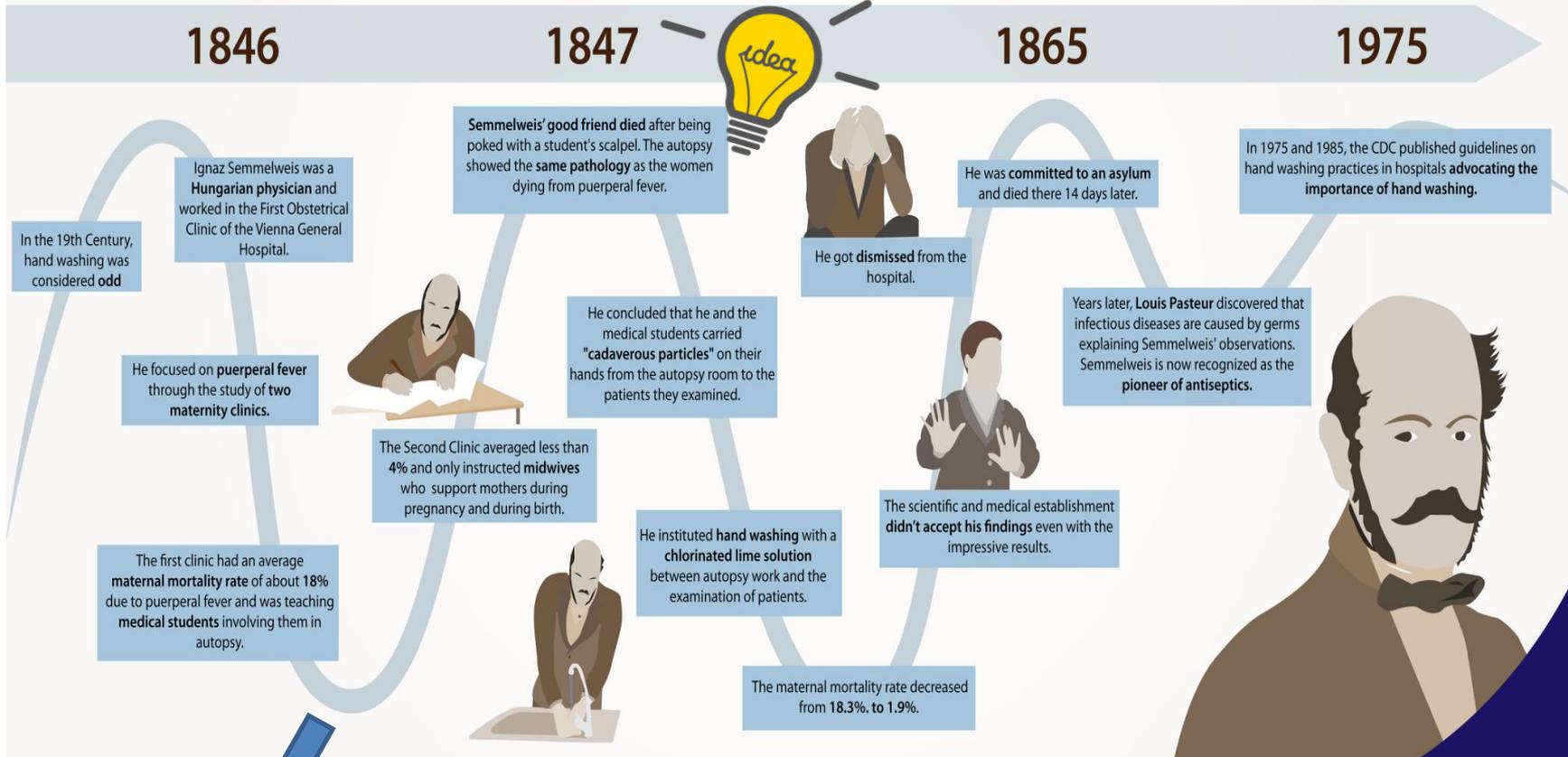
Ignác Fülöp Semmelweis



Febbre puerperale

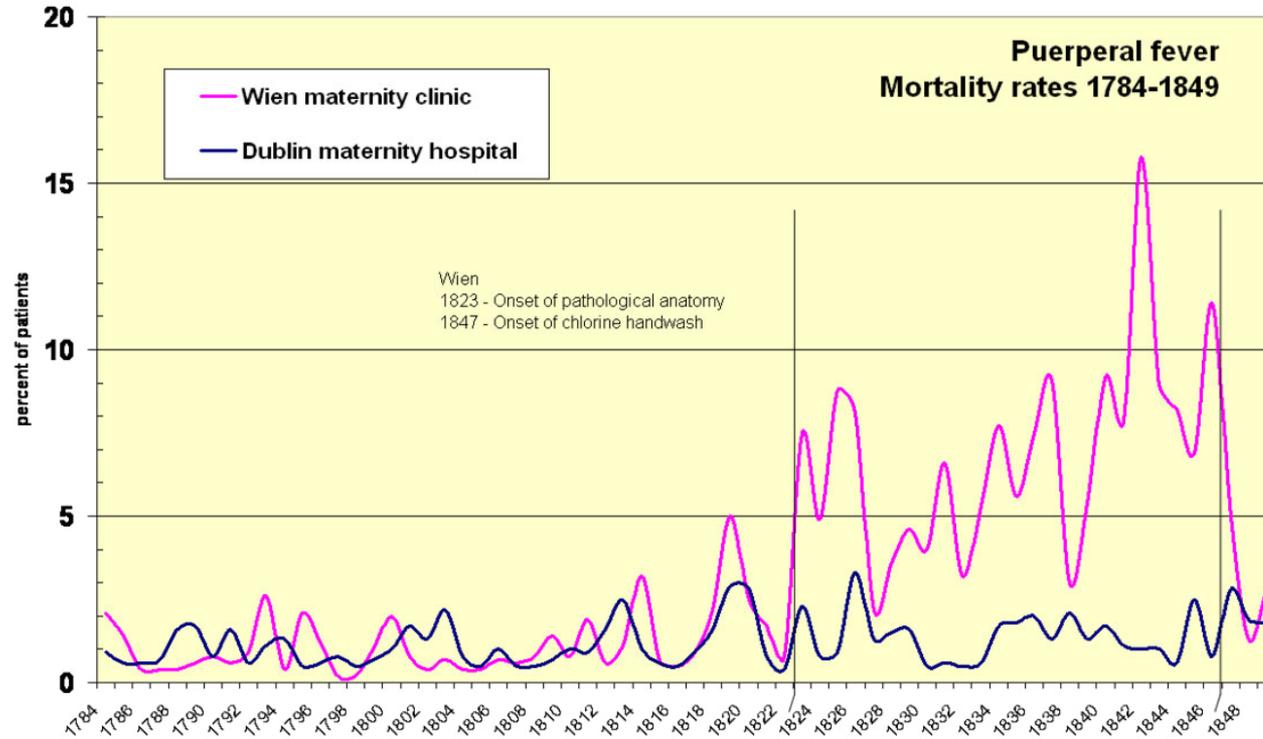
Elevata mortalità negli ospedali del XIX° sec >30%

Hand Hygiene History



- 1) **Teoria miasmatica**
- 2) **Posizione durante il parto**
- 3) **Campanello del sacerdote**

Esperimento di Semmelweis



Semmelweis aveva acquisito tre grandi meriti:

- Aver scoperto la natura della febbre puerperale
- Aver escogitato un modo per prevenirla
- Aver realizzato questa impresa in modo logico e coerente con i principi del ragionamento induttivo e della nuova disciplina dell'anatomia patologica



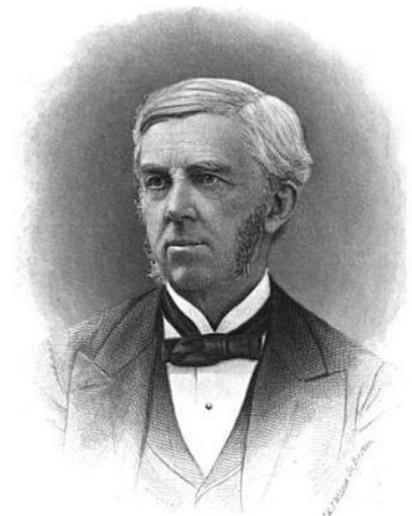
... ma compì altrettanti errori:

- Non fece corretti esperimenti di convalida
- Rifiutò di utilizzare il microscopio che avrebbe potuto avvalorare la sua teoria
- Trascurò colpevolmente di descrivere la *Lehre* sulla pagine di una rivista scientifica



Oliver Wendell Holmes

1843



Contagiousness of Puerperal Fever. 929

sister in degradation when the seal of promised maternity is impressed upon her. The remorseless vengeance of the law, brought down upon its victim by a machinery as sure as destiny, is availed in its fall at a word which reveals her transient claim for mercy. The solemn prayer of the liturgy singles out her sorrows from the multiplied trials of life, to plead for her in the hour of peril. God forbid that any member of the profession to which she trusts her life, doubly precious at that eventful period, should hazard it negligently, unadvisedly, or selfishly!

There may be some among those whom I address, who are disposed to ask the question, What course are we to follow in relation to this matter? The facts are before them, and the answer must be left to their own judgment and conscience. If any should care to know my own conclusions, they are the following; and in taking the liberty to state them very freely and broadly, I would ask the inquirer to examine them as freely in the light of the evidence which has been laid before him.

1. A physician holding himself in readiness to attend cases of midwifery, should never take any active part in the post-mortem examination of cases of puerperal fever.
2. If a physician is present at such autopsies, he should use thorough ablution, change every article of dress, and allow twenty-four hours or more to elapse before attending to any case of midwifery. It may be well to extend the same caution to cases of simple peritonitis.
3. Similar precautions should be taken after the autopsy or surgical treatment of cases of erysipelas, if the physician is obliged to visit such offices with his obstetrical duties, which is in the highest degree inexpedient.
4. On the occurrence of a single case of puerperal fever in his practice, the physician is bound to consider the next female he attends in labor, unless some weeks, at least, have elapsed, as in danger of being infected by him, and it is his duty to take every precaution to diminish her risk of disease and death.
5. If within a short period two cases of puerperal fever happen close to each other, in the practice of the same physician, the disease not existing or prevailing in the neighborhood, he would do wisely to relinquish his obstetrical practice for at least one month, and endeavor to free himself by every available means from any noxious influence he may carry about with him.

“The Contagiousness of Puerperal Fever” sulla rivista *New England Quarterly Journal of Medicine and Surgery*.

Febbre puerperale causata dal contatto e trasportata da un paziente ad un altro dagli stessi medici.



I medici dovevano:

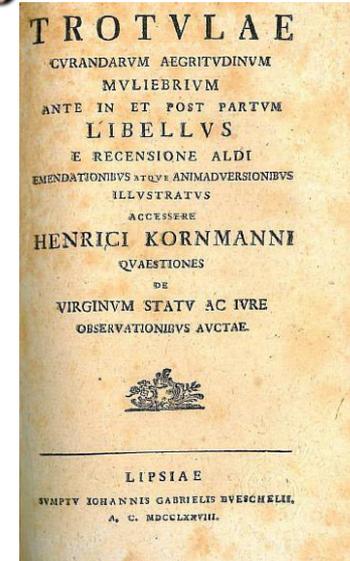
- evitare le autopsie di casi di febbre puerperale quando si preparavano ad assistere un parto;
- Dopo un'autopsia, tutti i vestiti dovevano essere cambiati e dovevano passare 24 ore prima che il medico potesse operare su una partoriente;
- nel caso di episodio di febbre puerperale il medico era obbligato a considerare il pericolo che la paziente successiva venisse contagiata;
- ogni medico che avesse fatto esperienza di due casi in un breve periodo di tempo avrebbe dovuto lasciare la professione per almeno un mese.

L'igiene nella Scuola Medica Salernitana

Trotula de Ruggiero



Seconda metà XI° sec.



De mulierum passionibus ante et post partum

Descrizione anatomica e fisiopatologia dell'apparato riproduttivo femminile; erbe e medicinali per curare i disturbi femminili (ginecologici, parto, infezioni, isteria)



De ornatu mulierum

Trotula: concetto di prevenzione



ALIMENTAZIONE

IGIENE

**ATTIVITA'
FISICA**



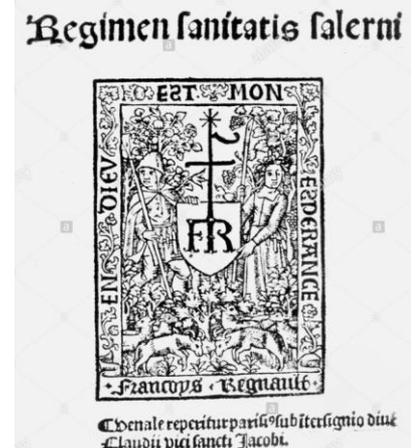
CONCETTO RIVOLUZIONARIO

IGIENE nella pratica medica
LAVAGGIO DELLE MANI
da parte di ostetriche, medici
e assistenti al parto

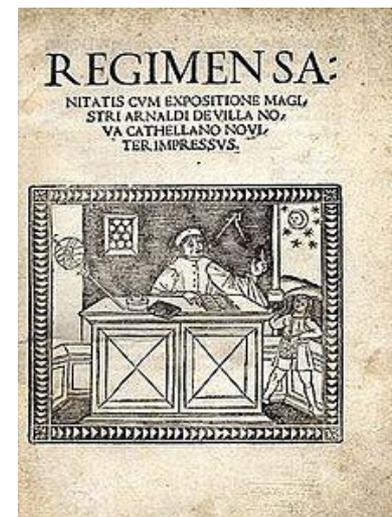
L'igiene nella Scuola Medica Salernitana Regimen Sanitatis Salernitanum (X°-XIII°sec)

“De aeris usu et qualitate: aer sit purus, sit lucidus et bene clarus. Infectus per se, nec olens foetore cloacae” (Pars Prima, CAP I, Art. II, p. 446, linee 37–39) (L'aria deve essere pura, respirabile e chiara; non deve essere infetta né presentare fetori miasmatici).

“Lumina mane manus surgens frigid lavet aqua ... crines pectat, dentes fricet, ista confortant cerebrum, confortant coetera membra. Si fore vis sanus ablue saepe manus” (Pars Prima, CAP III, p. 448, lines 116;118–119) (Di primo mattino bagnati con acqua fresca dal catino, lava le mani, detergi gli occhi...pettina i capelli, sfrega i denti... Se vuoi essere sano lava spesso le mani).



*poem of 362 Leonine verses
Giovanni da Milano (?)
Arnaldo da Villanova*



L'igiene nella Scuola Medica Salernitana

Profilassi e vaiolizzazione

*“Ne pariant teneris variolae fanera
natis/Illorum venis variolas mitte salubres.
Seu potius morbi contagia tangere vitent :
Aegrum, aegrique halitus, velamina, lintea,
vestes Ipseque quae tetigit male pura corpora
dextra) (Pars Nona, PATHOLOGIA, CAP X, p.
508, linee 1920–1921)*



Lady Mary Wortley Montagu, moglie dell'ambasciatore inglese in Turchia importò in Europa in 1722 l'inoculazione del vaiolo



LADY MARY WORTLEY MONTAGU IN TURKISH DRESS



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Dott.ssa Simona Pisanti



Prof. Maurizio Bifulco

