

Written in Bone: Poverty in Lübeck

Examination of Skeletal Remains from St. Anne's Churchyard in Lübeck: Are Poor Living Conditions Reflected in Non-Occupational Stress Markers?

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The St. Anne's Poor- and Workhouse (Pelc 1990)

- 1601: St. Anne's Poor- and Workhouse
- financed by church collections and donations
- accommodations for 500 people in need (the indigent, orphans, and criminals as well as the sick and infirm)
- a cemetery was established and designated as St. Anne's Churchyard in 1639 (see Fig. 1)
- average number of 200 burials was registered each year

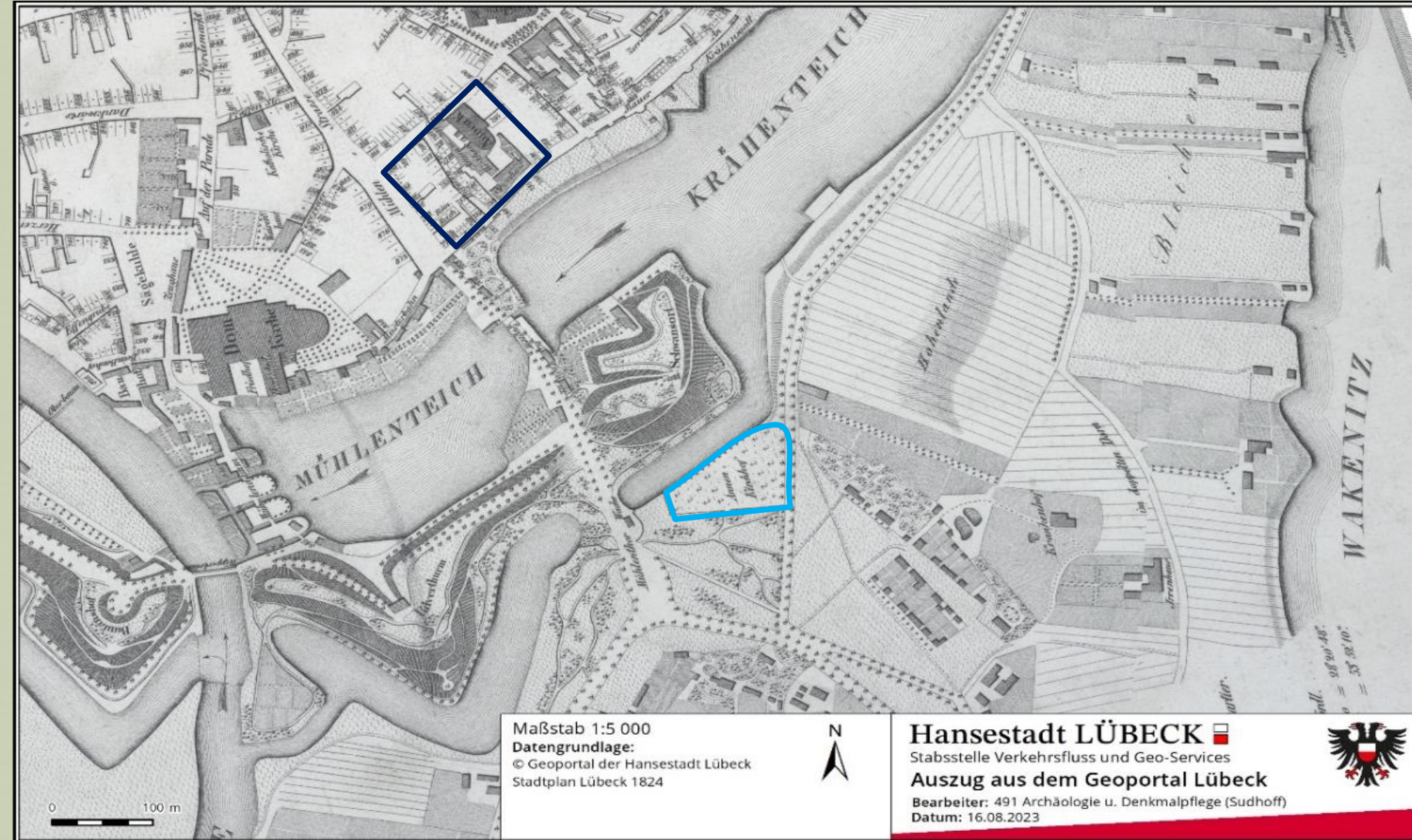


Fig. 1: Behrens map (1824), provided by Lübeck Archaeology. The marked areas show the **St. Anne's Poor- and Workhouse** and the **St. Anne's Churchyard**.

Material

- St. Anne's Churchyard cemetery for the poor was in use from 1639 to 1868
- the total area was 7556 m², with only approx. 2 % having been excavated in 2023
- the archaeological documentation yielded for 350 individuals, of whom 215 were adults
- the present study examined:
 - 147 adult individuals (well preserved) (see Fig. 2)
 - the other skeletal remains including stray finds where not suitable for analysis



Fig. 2: Skeletal remains of individual Lue-848.

Physical Stress Markers

The field of stress studies encompasses the examination of health and well-being, with a particular emphasis on the processes of adaptation and behavioural change. Environmental constraints, cultural systems and host resistance can contribute to the development of stress. The examination of pathological remains can provide insights into the living conditions of populations. Only a small proportion of diseases leave traces on the bone.

Methods

The anthropological examination consisted of the following components:

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|--|------------------------------|
| • Inventory and State of Preservation | • Body Height Reconstruction |
| • Sex Determination | • Discrete Traits |
| • Morphological and Histological Age Determination | • Pathological Changes |

The following stress markers were examined:

- | | |
|---|------------------------|
| • Cribra Orbitalia | • Stomatitis |
| • Linear Enamel Hypoplasia | • Rhinitis |
| • Tooth Status (Dental Calculus, Caries, Periodontal Disease, Dental Anomalies) | • Sinusitis Maxillaris |
| | • Otitis Media |
| | • Periosteal Reactions |

Results

The stress markers and pathologies shown in Fig. 3 were counted as an expression even if a slight expression was found. However, it is important to note that in most cases the expression was low.

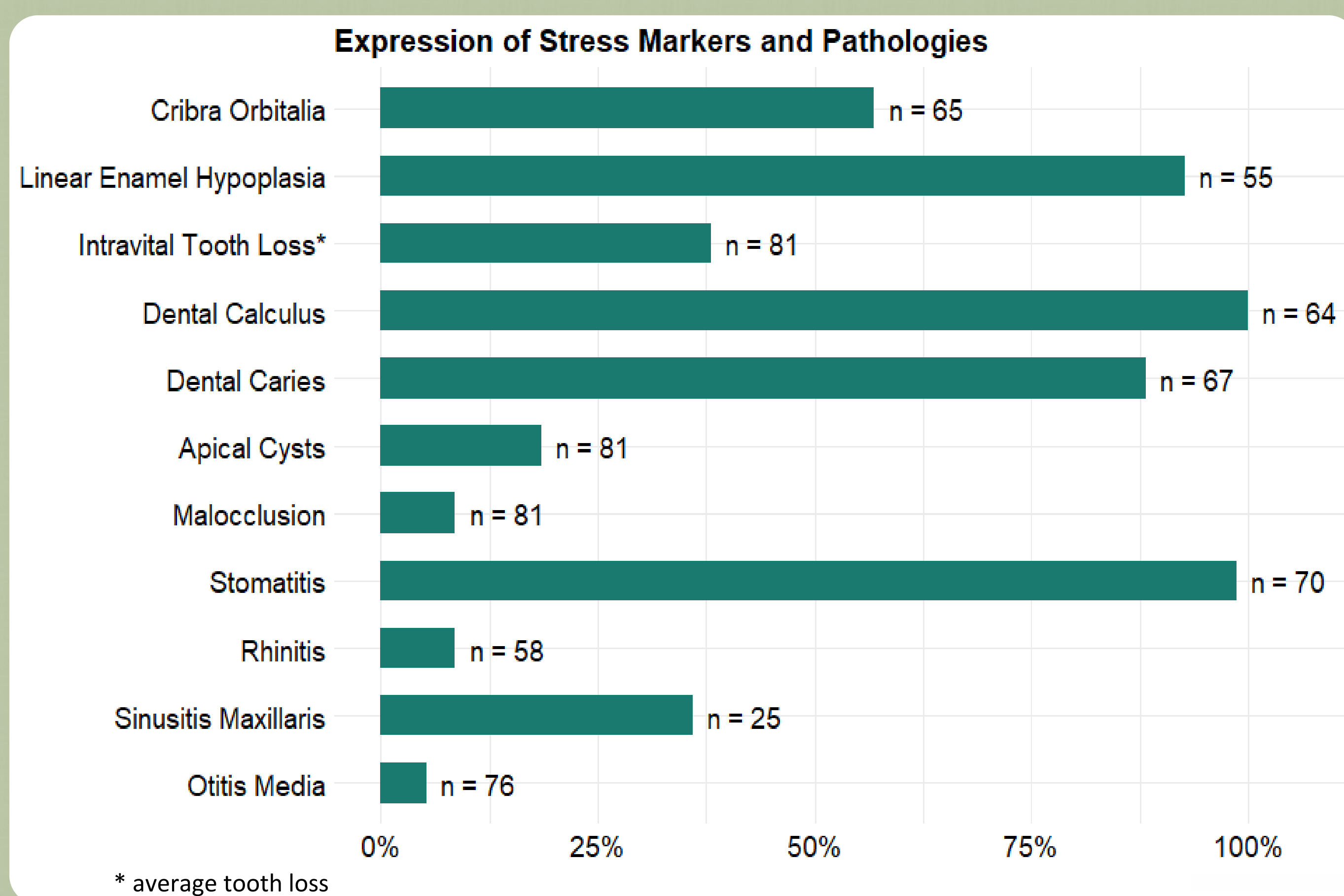
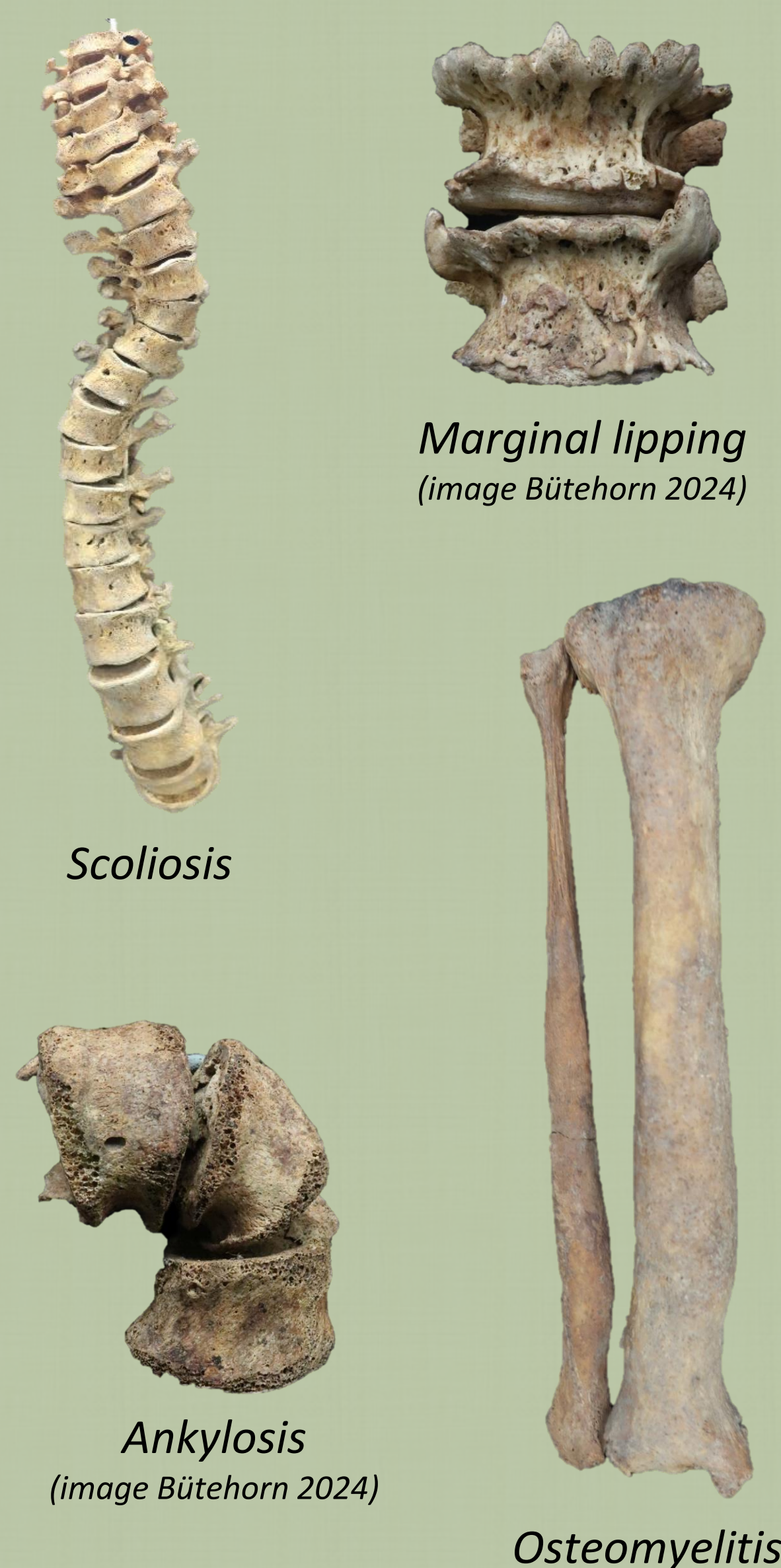


Fig. 3: Results of analysed stress markers and pathologies with the expression in percentage.



Discussion

The analysis of cribra orbitalia and linear enamel hypoplasia (non-specific stress markers) provided indications of malnutrition. Most of the analysed skeletons exhibited a minimal overall expression. An analysis of the dental status conducted the presence of tooth wear, calculus, dental caries, inflammatory processes, and other enamel defects. The oral hygiene of the individuals was found to be inadequate and in a poor state. The presence of inflammatory changes (stomatitis, rhinitis, maxillary sinusitis and otitis media) was relatively low. Finally, the long bones revealed periosteal reactions mostly on the lower extremities and, in some cases, indications of possible diseases (osteomyelitis).

Conclusion

The population of St Anne's Poor and Workhouse exhibited indications of malnutrition and poor hygiene. However, the severity of these conditions was mostly minimal, with only a few cases displaying severe manifestations. Surprisingly, these contradictory findings did not fit the expectations, as the skeletal remains examined from the poor cemetery did not exhibit the degree of manifestations that would have been associated with poverty.

References

- Bütehorn H (2024)** Examination of Skeletal Remains from a Historical Cemetery for the Poor with Special Focus on Occupational Stress Markers. Master Thesis, Johann-Friedrich-Blumenbach Institut, Georg-August-Universität Göttingen
- Pelc O (1990)** Gründliche Nachricht des St. Annen Armen- und Werck-Hauses in Lübeck 1735. In: Kleine Hefte zur Stadtgeschichte herausgegeben vom Archiv der Hansestadt Lübeck Heft 7

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