

The Contribution of the Anthropological Study to the Analysis of Ancient Cemeteries: the Demographic Profile of Six Roman Imperial Age Necropolis

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Introduction

The analysis of the mortality pattern in skeletal series from Rome allows to carry out a preliminary demographic study on the population of one of the widest city of the ancient world. Several information could be highlighted about Roman Imperial Age by the life tables for 6 Imperial Roman necropolis ranging between 1st century A.D. and 3rd century A.D.

The anthropological data lead to define the essential features of each population that identify several differences related to the health and occupational status. Every necropolis might highlight an unique social structure that mirrors, by demographic point of view, the mortality and the life expectation which are prone to be influenced by exogenous factors. The reported data are just a sample of the huge amount of data that have been scored in the last fifteen years by Soprintendenza Speciale per i Beni Archeologici di Roma. Notwithstanding they represent a meaningful example of the massive informations that could be achieved by the study of the ancient populations

Nemeskeri, 1970; Ferembach *et al.*, 1979; Lovejoy, 1985), in order to reduce, as much as possible, assessment errors. The data analysis allows to compile the life tables, estimated both for all individuals and for separate gender, although the division may not take into account the sub-adult individuals, in which sex is morphologically indeterminate.

Results

The necropolis Collatina (COL) highlights a sex ratio of 1.16, that lead to exclude every funerary selection between females and males. The age at death also seems to confirm the cross sectional nature of the mortality in this urban cemetery (Tab. 1). A selective choice seems

COL	dx	dx%	qx	lx%	Lx	Tx	ex
0-6	168	12,13	12,13	100,00	657,55	2752,46	27,52
7-12	141	10,18	11,59	87,87	496,68	2094,91	23,84
13-19	189	13,65	17,57	77,69	496,07	1598,23	20,57
20-29	228	16,46	25,70	64,04	558,12	1102,17	17,21
30-49	596	43,03	90,44	47,58	521,30	544,04	11,43
50-X	63	4,55	100,00	4,55	22,74	22,74	5,00

Tab. 1. Life table necropolis Collatina.

Materials and Methods

The data derived from the analysis of six topographically different necropolis have been reported: Collatina (Buccellato *et al.*, 2003), Casal Bertone (Musco *et al.*, 2008), Padre Semeria (Benassi *et al.*, 2011), Osteria del Curato (Catalano *et al.*, 2001), Castel Malnome (Catalano *et al.*, 2010) and Quarto Cappello del Prete (Musco and Catalano, 2010) for a cumulative amount of 2299 skeletons.

Every sample refers to inhumations in a good state of preservation to properly determine sex and age at death by the classical osteological methods (Acsadi and

to exist for Quarto Cappello del Prete (QCP) (Tab. 2) and Casal Bertone Area Q (CBQ) (Tab. 3), in which an extreme amount of children have been excavated. An opposite selection might be happened in Castel Malnome (CM), where very few children have been buried, and this suggests this necropolis has been consisted of people employed in the nearby saltworks (Tab. 4). Via Padre Semeria (PS) seems to be substantially homogeneous in terms of population, showing a pattern of mortality attributable to an urban population, not characterized by any aspect exogenous to the structure of the population (Tab. 5).

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QCP	dx	dx%	qx	lx%	Lx	Tx	ex
0-6	70	58,82	58,82	100,00	494,12	1360,08	13,60
7-12	8	6,72	16,33	41,18	226,89	865,97	21,03
13-19	9	7,56	21,95	34,45	214,71	639,08	18,55
20-29	9	7,56	28,13	26,89	231,09	424,37	15,78
30-49	23	19,33	100,00	19,33	193,28	193,28	10,00
50-X	0	0,00	0,00	0,00	0,00	0,00	0,00

Tab. 2. Life table Quarto Cappello del Prete.

CBQ	dx	dx%	qx	lx%	Lx	Tx	ex
0-6	33	47,83	47,83	100,00	532,61	1723,91	17,24
7-12	6	8,70	16,67	52,17	286,96	1191,30	22,83
13-19	6	8,70	20,00	43,48	273,91	904,35	20,80
20-29	8	11,59	33,33	34,78	289,86	630,43	18,13
30-49	11	15,94	68,75	23,19	304,35	340,58	14,69
50-X	5	7,25	100,00	7,25	36,23	36,23	5,00

Tab. 3. Life table Casal Bertone area Q.

CM	dx	dx%	qx	lx%	Lx	Tx	ex
0-6	2	1,48	1,48	100	694,81	3532,22	35,32
7-12	4	2,96	3,01	98,52	582,22	2837,41	28,80
13-19	11	8,15	8,53	95,56	640,37	2255,19	23,60
20-29	20	14,81	16,95	87,41	800	1614,82	18,47
30-49	90	66,67	91,84	72,59	785,18	814,81	11,22
50-X	8	5,93	100	5,93	29,630	29,63	5,00

Tab. 4. Life Table Castel Malnome.

PS	dx	dx%	qx	lx%	Lx	Tx	ex
0-6	12	11,76	11,76	100,00	658,82	2380,88	23,81
7-12	11	10,78	12,22	88,24	497,06	1722,06	19,52
13-19	21	20,59	26,58	77,45	470,10	1225,00	15,82
20-29	26	25,49	44,83	56,86	441,18	754,90	13,28
30-49	32	31,37	100,00	31,37	313,73	313,73	10,00
50-X	0	0,00	0,00	0,00	0,00	0,00	0,00

Tab. 5. Life Table Via Padre Semeria.

ODC	dx	dx%	qx	lx%	Lx	Tx	ex
0-6	93	19,02	19,02	100,00	633,44	2646,32	26,46
7-12	31	6,34	7,83	80,98	466,87	2012,88	24,86
13-19	60	12,27	16,44	74,64	479,55	1546,01	20,71
20-29	99	20,25	32,46	62,37	522,49	1066,46	17,10

30-49	166	33,95	80,58	42,13	503,07	543,97	12,91
50-X	40	8,18	100,00	8,18	40,90	40,90	5,00

Tab. 6. Life Table Osteria del Curato.

The necropolis of Osteria del Curato (ODC), nearby an ancient farm, shows a demographic profile in which senescence is the essential factor in mortality (Tab. 6).

Conclusions

The values of relative survival in the six necropolis tend to vary in a substantially homogeneous way, with the exception of highly specialized cemetery, both culturally (Quarto Cappello del Prete and Casal Bertone Area Q) and occupationally (Castel Malnome). The rest of necropolis highlight demographic profiles that suffer of biological problems related to the urban or country lifestyle. In fact Collatina and Padre Semeria seem to be related to a urban environment, where not only the senescence is responsible of mortality, but other factors like diseases and bad sanitary conditions might play a key role in the survival. Osteria del Curato was away from the Urbe and near an ancient farm that might provide better life quality to living people, so the senescence seems to be the key factor in the mortality pattern.

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