A Post-Mortem Study of “Lifelines”: Common Belief Vs. Reality

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Abstract

Background: Dermatoglyphics is the scientific study of naturally occurring creases on certain body parts like palms, fingers, soles and toes. As per Dermatoglyphics, the creases are believed to result from flexion of the fetal skin and can be influenced by factors causing aberrant development of the embryo. Method: the objectives of the study was to examining the length of lifelines of the deceased and calculation of predicted age of individuals from their lifeline’s length by applying the knowledge of palmistry. And to compare the predicted age with the age at death of those deceased individuals. 100 cases all above 18 years are studied over a period of three months. Conclusion: The result of this study revealed that it is not in agreement with the popular belief of Palmistry among most of the common people that length of lifeline reveals longevity. More is the age at death, the likelihood of the prediction of longevity from the lifeline being right is more.

Key words: Dermatoglyphics, lifeline, palmistry, belief, longevity, age, prediction

Introduction

Dermatoglyphics¹ is the scientific study of naturally occurring creases on certain body parts like palms, fingers, soles and toes. As per Dermatoglyphics, the creases are believed to result from flexion of the fetal skin and can be influenced by factors causing aberrant development of the embryo. Popich and Smith (1970) explained the spatial relationships of main palmer flexion creases as follows¹:

· The thenar crease is the consequence of oppositional function of the thumb and thenar muscle pad.

· The distal transverse crease follows the underlying sloping alignment of the third to fifth metacarpo-phalangeal joints.

· The proximal transverse crease is influenced on its radial aspect by flexion of the second metacarpo-phalangeal joint.

Development of different lines on palm:²

- Primary palmer Lines à

1. The radial longitudinal crease that borders the thenar eminence (Lifeline as per palmistry): 7-9wks IU.

2. Distal horizontal crease (Heart line as per palmistry): 9-12wks IU.

3. Proximal horizontal crease (Head line as per palmistry): 9-13wks IU.

- The creases are first seen on the radial side of the palm and extend in an ulnar and distal-proximal direction.

- Palmer finger lines à after birth usually.

- Secondary palmer lines à 7-8 months IU.

- Tertiary palmer lines à 8-9 months IU.

- Accessory palmer lines à after birth usually.
Palmistry is the claim of characterization and foretelling of the future of a person through the study of his/her palm. Palmistry is concerned with the interpretation of the lines on the palmer aspect of an individual’s hand. In popular culture it is also known as ‘Palm Reading’.

Palmistry claims that individual’s past, present and future events can be interpreted by studying these lines.

- Among the primary palmer lines, the lifeline is an important indicator of one’s physical well-being and general vitality.
- Length of the lifeline of an individual indicates his/her life expectancy as per Palmists and it is also believed by many common people.
- Such popular belief of palmistry has not been formally tested here. This study was an attempt to examine the relationship, if any, between predicted age from length of the lifeline and actual age at death.

OBJECTIVES OF THE STUDY:

1. Examining the length of lifelines of the deceased.
2. Calculation of predicted age of individuals from their lifeline’s length by applying the knowledge of palmistry.
3. Comparing the predicted age with the age at death of those deceased individuals.

MATERIALS AND METHODS:

- **Study Design:** Observational, cross sectional, morgue based institutional study.
- **Study Period:** Three months (from 1st January to 31st March of 2018).
- **Study Place:** Morgue complex attached to Department of FSM, NRS Medical College and Hospital, Kolkata.
- **Study Tools:** Predesigned pro-forma, inquest report, hand lens, moist cotton, digital camera, computer.
- **Study Population:** All adult (age >18 years) dead bodies (males and females).
- **Exclusion criteria:**
  - Unknown bodies
  - Decomposed bodies
  - Bodies with congenital or acquired deformities of hands
  - Mutilated bodies with missing hands
  - Bodies with cadaveric spasm
- Bodies with injuries (including burn injury) involving palmer aspects of hands.

- **Sample Size:** Total 100 cases have been chosen by total enumeration based on inclusion and exclusion criteria of the study.

- **Parameters Studied:** deceased’s age at death, nature and place of death, length of lifeline.

- **Study Technique:** Observations were undertaken in 100 bodies based on inclusion & exclusion criteria. The age at death was taken from the inquest report, confirmed by relatives and recorded in the completed years. After breaking the rigor mortis artificially before the autopsy surgeon during the autopsy, the hands were cleaned by moist cotton and maintained in supine position by a morgue assistant. The lifeline was identified with reference to the work of Cheiro. The length and end point of the lifeline (Rt in males, Lt in females) was noted and photographed. The predicted age was calculated with the help of knowledge of Palmistry. Values were noted in the pre-designed proforma and analyzed.

  **How to calculate age from lifeline?**

  **Three straight lines** are drawn over palm as follows:

  1. from middle of base of middle finger to the middle of proximal bracelet line.

  2. from middle of base of index finger to the lateral end of proximal bracelet line.

  3. from middle of tip of thumb to middle of proximal bracelet line.

  Where the 2nd and 3rd lines crossed, is called the **Peak point**.

  Now different lines indicating different ages are drawn from the peak point across the lifeline. The end point of the lifeline where falls, indicates the end of life of the person within that age range.

  ![Pic.2: Calculation of predicted age from lifeline](image)

**Results And Discussion**

- Among the study population **66%** were males and **34%** were females.

- **32%** of the study population died in **natural death** and **68%** died due to **unnatural death**.

**Table 1- DISTRIBUTION OF THE STUDY POPULATION ACCORDING TO AGE AT DEATH (n=100)**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gr. 1 (18-27yrs)</td>
<td>05</td>
<td>02</td>
<td>07 %</td>
</tr>
<tr>
<td>Gr. 2 (28-34yrs)</td>
<td>08</td>
<td>06</td>
<td>14%</td>
</tr>
<tr>
<td>Gr. 3 (35-48yrs)</td>
<td>17</td>
<td>05</td>
<td>22%</td>
</tr>
<tr>
<td>Gr. 4 (49-62yrs)</td>
<td>24 (36%)</td>
<td>09</td>
<td>33%</td>
</tr>
<tr>
<td>Gr. 5 (63-83yrs)</td>
<td>10</td>
<td>11 (32%)</td>
<td>21%</td>
</tr>
<tr>
<td>Gr. 6 (84-97yrs)</td>
<td>02</td>
<td>01</td>
<td>03%</td>
</tr>
<tr>
<td>Gr. 7 (97-112 yrs)</td>
<td>00</td>
<td>00</td>
<td>00%</td>
</tr>
<tr>
<td>Total</td>
<td>66</td>
<td>34</td>
<td>100%</td>
</tr>
</tbody>
</table>
It was obvious that among the study population, most of the **males** (36%) died within **49-62 years** and most of the **females** (32%) died within **63-83 years**.

**Table 2- MEAN AGE AT DEATH WITH RESULT OF ‘t’ TEST (n=100)**

<table>
<thead>
<tr>
<th>Sex</th>
<th>Mean age of death (yrs)</th>
<th>S.D of Mean</th>
<th>t test: P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>50.23</td>
<td>16.90</td>
<td>.684</td>
</tr>
<tr>
<td>Female</td>
<td>51.65</td>
<td>15.60</td>
<td>.676</td>
</tr>
</tbody>
</table>

t-test for equality of means reveals that **mean age at death are not significantly different in case of males and females** among the study population.

**Table 3- DISTRIBUTION OF THE STUDY POPULATION ACCORDING TO PREDICTION OF AGE AT DEATH FROM LIFELINE (N=100)**

<table>
<thead>
<tr>
<th>Prediction of age at death</th>
<th>No of cases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Wrong</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Prediction of age at death was **right** only in **25% cases** and in **75% cases** the prediction was **wrong**!

**Table 4- DISTRIBUTION OF THE PREDICTION OF AGE AT DEATH FROM LIFELINES AMONG MALES & FEMALES OF THE STUDY POPULATION AS PER NATURE OF THEIR DEATHS (n=100)**

<table>
<thead>
<tr>
<th>Prediction of age at death</th>
<th>Right (n=25)</th>
<th>Wrong (n=75)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature of death</td>
<td>Male Female</td>
<td>Male Female</td>
<td></td>
</tr>
<tr>
<td>Natural</td>
<td>11 (91.7%)</td>
<td>08 (61.5%)</td>
<td>08 (14.8%)</td>
</tr>
<tr>
<td>Unnatural</td>
<td>01 (8.3%)</td>
<td>05 (38.5%)</td>
<td>46 (85.2%)</td>
</tr>
<tr>
<td>Total</td>
<td>12 (100%)</td>
<td>13 (100%)</td>
<td>54 (100%)</td>
</tr>
</tbody>
</table>

- Among the **Males with right predictions** 91.7% died natural death and 8.3% died due to unnatural causes.
- Among the **Females with right predictions** 61.5% died natural death and 38.5% died due to unnatural causes.
Table 5- RESULT OF BINARY LOGISTIC REGRESSION TEST (n=100)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Sig. (p-values)</th>
<th>Exp. B (Odd’s ratio)</th>
<th>95% C.I for Exp. (B) (lower)</th>
<th>95% C.I for Exp. (B) (upper)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Died at age (yrs)</td>
<td>.000</td>
<td>1.287</td>
<td>1.127</td>
<td>1.471</td>
</tr>
<tr>
<td>Sex (male)</td>
<td>.016</td>
<td>.141</td>
<td>.029</td>
<td>.697</td>
</tr>
<tr>
<td>Nature of death (natural)</td>
<td>.247</td>
<td>3.522</td>
<td>4.18</td>
<td>29.687</td>
</tr>
<tr>
<td>Place of death (home)</td>
<td>.578</td>
<td>.650</td>
<td>.142</td>
<td>2.967</td>
</tr>
</tbody>
</table>

Hand of a male deceased died at 52 years in home due to unnatural cause (hanging). Lifeline predicted age-group is 63-83 years (Wrong prediction).

Hand of a male deceased died at 46 years in home due to natural cause. Lifeline predicted age-group at death is 35-48 years (Right prediction).
• On Binary logistic regression it shows that more is the age, the likelihood of the prediction being right is more.

• The prediction is right more in case of females.

• Nature and place of death doesn’t add significantly to the model.

• Model info:
  It correctly classifies 90% cases.
  Negelkerke $R^2 = 72.3\%$.

RESULT OF TEST FOR MEASUREMENT OF AGREEMENT (n=100)

• Test to measure the agreement between the lifeline predicted age and the actual age at death showed very poor agreement between the two as revealed by the Cohen's Kappa value, which is 0.127 (< 0.3).

Conclusions

• The result of this study revealed that it is not in agreement with the popular belief of Palmistry among most of the common people that length of lifeline reveals longevity.

• More is the age at death, the likelihood of the prediction of longevity from the lifeline being right is more.

(Note: more is the age the probability of dying is also more!!)

• It demands more extensive study in future over a longer period of time including more population in this field to stand the reality.

Limitations of The Study

• There is a limitation of sample size in the study.

• There is a limitation in available time period (only 3 months).

• The study is not a multi-centre based study.

• There is a limitation in age group, children (<18 years) were not included in this study.

Disclosure:

• The study was done for academic interest only.

• It is not meant to hurt sentiment or belief of anybody or any group of people/organization.

• Data collected during the study period were not used for any commercial purpose.

• The identity of the deceased never be disclosed.

• There was no deviation from the standard autopsy protocol.

• No disfiguration or mutilation of the body was occurred.

Ø Source of Funding: Self

Ø Conflict of Interest: nil

Ø Ethical Clearance: taken from Institutional Ethics Committee of NRS MCH.

Acknowledgement: Our heartfelt gratitude to those DECEASED whose unfortunate death helped us in this study

References


2. Singh I B. Human Embryology. New Delhi: Jaypee Brothers; 2018

