When Do We Bury Our Close Kins? Understanding The Kinloss Over Life Course in India

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Introduction

Death is a universal experience, one that pulls individuals into the "ethereal" world, leaving profound disruptions in its wake. It is widely regarded as the most stressful life event that families face (Murray et al., 2005), and the emotional and social upheaval extends beyond the deceased, altering relationships within the household (GELCER, 1986). Although life expectancy has increased significantly due to advancements in public health and food security (AROKIASAMY & YADAV, 2014), death remains an inevitable crisis that reshapes familial roles, particularly in societies like India, where familial structures are deeply intertwined with individual identity and status.

With rising life expectancy, individuals now spend extended periods in roles such as child, parent, and spouse, thus magnifying the consequences of a family member's death on household organization. The death of a household member not only signifies the loss of a loved one but also necessitates a reconfiguration of family roles and responsibilities. For instance, the death of a male household head may prompt the widow or an adult child to assume leadership within the family, thereby redefining their relative positions. This disruption is particularly pronounced when death occurs "off time," or earlier than anticipated, further complicating the life course of the surviving family members and increasing the social burden (Stroebe et al., 2007).

Objective

This study aims to examine mortality as a transformative experience, focusing on how the timing and context of death within a household impact familial roles, individual identities, and broader household dynamics. We Studied the timing of Kinloss and its differential burden among the wealth quintiles. Specifically, it seeks to investigate the circumstances under which individuals experience the loss of close kin and the subsequent realignment of family structures in the contemporary Indian mortality regime. By exploring these relational shifts, this research intends to contribute to the understanding of bereavement processes and evolving family support systems, with particular emphasis on the implications of mortality patterns within households in India.

Materials & Methods

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Data and Data Preparation

This study utilized data from the latest National Family Health Survey (NFHS-5) round, encompassing demographic, health, and mortality. Data collection involved the household head reporting on deaths and the respondent women providing birth history, which was used to compile a comprehensive dataset.

Data preparation entailed several critical steps to ensure the accuracy and relevance of the analysis. Mortality data were filtered to include only those individuals who had died within the last three years. Relationships between deceased individuals and the household head were established using detailed criteria based on sex, age, and marital status. This process involved deducing the most probable familial connections from potential relations and addressing anomalies such as incomplete age or death date reports.

Lifelines were constructed to analyse mortality data, with observations restricted to the three years prior to the interview date. For individuals aged 3 years and above, lifelines started three years before the interview and ended at the interview date. For those younger than 3 years, the lifelines began at birth. Deceased individuals had lifelines ending at the date of death. Person-years lived were calculated for each individual during the study period, and lifelines were analysed by individual-to-individual relationships. The data were then collapsed by relation type and age group to estimate total person-years lived and assess variability in family members' death risk exposure.

Methods

We calculated age-specific hazards using a Non-Parametric period life table to analyse the risk of exposure to family member deaths across different life stages. This approach assesses the cumulative risk of losing a family member, such as a mother, father, sibling, or child, at various ages throughout an individual's life. We constructed period life tables using synthetic cohort concepts due to the lack of a cohort family database, following methodologies from Gupta (2022) and Gupta and Sudharsanan (2022). Age-specific mortality rates were estimated, with lifelines providing data on the average number of years lived by those who died within each age interval. The cumulative risk for exposure to family member death was then calculated by age and wealth group, with risk ratios comparing the poorest to the richest. Additionally, Cumulated Hazard (nHx) of family member death was estimated as the negative log of the number of individuals surviving to each age.

For relational experience expectancy, similar to life expectancy, we estimated the number of additional years an individual is expected to live with a particular family member based on the current mortality regime. Given their higher mortality risks at various ages, this measure was computed for parents and grandparents. We employed the standard life table construction method by Preston et al., (2001) and used a Cluster-Bootstrap Method with 100 samples to estimate 95% confidence intervals for the

parameters. This approach allowed for robust estimates of relational experience expectancy and other mortality metrics.

Results

Mean Age of Relational Loss Experience

On average, individuals experience the death of a parent at 33.4 years, with the loss of a father occurring earlier (mean age: 31.0) compared to the loss of a mother (mean age: 36.5). Meanwhile, the mean age at which individuals lose a spouse is 58.7 years, with husbands typically dying younger (mean age: 57.1) than wives (mean age: 63.6).

Risk of Exposure to Mortality Induced Relational Loss

At age 25, the probability of losing a parent reaches 0.066371, with fathers still more likely to be deceased (0.091729) than mothers (0.0445). By this point, the cumulative probability of losing a grandparent is substantial at 0.409635, reflecting the advanced age of grandparents. By age 50, the cumulative probability of losing a parent rises to 0.382017, with a much higher likelihood of losing a father (0.472424) than a mother (0.334396). By age 40, the probability of losing a spouse rises to 0.014787, and by age 50, the probability jumps further to 0.032383.

Relational Experiences at different stages of Life

On average, 74.6% of individuals still have at least one parent alive at mid-life, but by age 60, only 12.2% remain with a living parent. At age 60, 18.6% of individuals have their mothers alive, while only 5.6% still have their fathers. At age 60, 88.2% of individuals have their spouses, but this proportion declines to 77.8% by age 70, which places an additional burden on women who face an increased probability of early widowhood. By age 70, over 36% of women have experienced the death of their husbands, while only 9% of men have lost their spouses.

Relational Experience Expectancy (See Table 1)

The relational expectancy for parents is 43.5 years. Specifically, a father is expected to live until the individual is 39.4 years old, whereas a mother is expected to live longer until the individual reaches 47.4 years.

Do Probabilities of Mortality Experiences Differ by Wealth Quintiles? (See Figure 1)

We have observed a similar 'mortality penalty on the relational loss' associated with wealth disadvantage. The poorest were at two times greater risk than the richest of losing a parent, and 70% more likely to have lost a grandparent by age 10. The poorest were also 50% more likely to have lost a child by age 20, while they are 2.8 times more likely to lose offspring by age 65 than the richest sect of the population, depicting the cumulation of survival disadvantage by age. The poorest were at 5 times

the risk of losing spouse and about 88% greater risk of losing a parent by age 25. The poorest are experiencing the systematic overburden of widow(er)hood, early loss of parental support and offspring loss.

Conclusion

This study underscores that mortality profoundly impacts not just the deceased but also the survivors, with its effects varying significantly based on the timing and context of the loss. Our analysis reveals that the experience of losing a parent, spouse, or offspring is shaped by the age of the surviving individual and the socio-economic conditions surrounding the death. The study also highlights substantial socio-economic disparities, with the poorest individuals facing higher probabilities of early familial deaths and experiencing greater emotional and social burdens. These findings stress the need for policies addressing the unequal burden of premature bereavement, aiming to better support those most affected by mortality.

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Table

Table 1. Relational Experience Expectancy for Grandparents and Parents at Birth

Relation	Relational Experience Expectancy (yrs)	Relation	Relational Experience Expectancy (yrs)
Grandparent		Parent	
Grandparent	19.5 (19.3-19.6)	Parent	43.5 (43.4-43.6)
Grandfather	16.5 (16.3-16.7)	Father	39.4 (39.2-39.5)
Grandmother	22.1 (21.9-22.3)	Mother	47.4 (47.2-47.6)
Poorest	17.0 (14.2-19.8)	Poorest	39.5 (34.9-44.1)
Poorer	18.5 (15.6-21.3)	Poorer	41.4 (36.9-45.9)
Middle	19.8 (17.1-23.2)	Middle	43.2 (38.9-47.4)
Richer	20.4 (17.6-23.2)	Richer	44.5 (39.7-49.3)
Richest	21.5 (18.6-24.3)	Richest	47.3 (42.2-52.4)

Figure

Figure 1. Age-Specific Risk Ratios of Relational Loss by Wealth Quintiles

Age-specific Risk Ratios of Relational loss by Wealth Quintiles
(India; NFHS 5)