Suicide and Poverty in Low and Middle Income Countries: systematic review

Preliminary findings

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Background

- Suicidal behaviour is considered a **global public health crisis.**

- Suicidal behaviour is associated with **mental illness** and individual personality factors.

- Growing awareness that **socio-cultural, economic and contextual factors** also play a role in the aetiology of suicidal behaviours.

Source: WHO 2010; Rihmer 2011; Fliege et al. 2009; Hawton et al. 2005; Krysinkska & Lester 2010; Wulsin et al. 1999; Brinkmann 2009; Chan 2013; Platt 2011; Vijayakumar et al. 2005

- Growing research on the relationship between suicidal behaviour and **socio-economic variables**, such as poverty, financial crisis, indebtedness and unemployment.

- Understanding the nature of the relationship between economic factors and suicidal behaviour is important for suicide prevention, especially in developing countries where rates of poverty are high.

Aim

To conduct a systematic review of research conducted on the **relationship between poverty and suicidal behaviour** in low and middle income countries.

Methods

- **11 databases** specialised in medical (CINHAL Plus, EMBASE, Global Health, PsycINFO, MEDLINE) and social sciences (EconLit, HTA Database, IBSS, NHSEED, PAIS International, Web of Science)

- Last **10 years** (January 2004 - April 2014)

- In **English**

- **Poverty** + **suicidal behaviour** + **low and middle income countries**

Methods (cont.)

- **Poverty:** monetary-related poverty indicators at the *individual* level (i.e. absolute poverty, relative poverty, economic status and wealth, unemployment, economic/financial problems, debt, support from the welfare system) and *country* level (economic crisis, GDP, Gini, HDI).

- **Suicidal behaviour:** suicidal ideation, suicidal plans, suicide gestures, self-harm, attempted suicide, completed suicide

- **Low and middle income countries:** World Bank Atlas method

Methods (cont.)

- **Screening by abstract:** independently by pairs of authors
  - Poverty
  - Suicidal behaviour
  - Relationship between poverty and suicidal behaviour
  - Low and middle income countries

- **Screening by full-text:** independently by pairs of authors

- **Data extraction:** by two authors

- Quality assessment: by two authors (SIGN50 checklists)

- **Data analysis**: descriptive statistics, narrative synthesis

Data extraction

1. **Study characteristics** (author, year, country of study, rural versus urban, community- clinic- or hospital based, main purpose of the study, design, study population, sample size and characteristics, duration of the study)

2. **Suicide dimensions** (with instruments)

3. **Poverty dimensions** (with instruments)

4. **Relationship between suicide and poverty** (statistical methods used and nature of the association)

Results: number of studies

Results: study characteristics

World Bank region

	n	%
East Asia and Pacific	12	14.1%
Europe and Central Asia	11	12.9%
Latin America & the Caribbean	2	2.4%
Middle East and North Africa	19	22.4%
South Asia	28	32.9%
Sub-Saharan Africa	9	10.6%
Multiple	4	4.7%

World Bank income group

	n	%
Low income country	5	5.9%
Lower middle income country	24	28.2%
Upper middle income country	51	60.0%
Multiple	5	5.9%

Setting

	n	%
Community-based	49	57.6%
Clinic-based	1	1.2%
Hospital based	28	32.9%
National/regional registers	0	0.0%
Other	5	5.9%
n/a	2	2.4%

Location

	n	%
Rural	17	20.0%
Urban	18	21.2%
Rural and Urban	31	36.5%
Other	1	1.2%
n/a	18	21.2%

Study design

	n	%
Interrupted-time series	5	5.9%
Cohort studies	8	9.4%
Case-control studies	12	14.1%
Cross-sectional studies	44	51.8%
Case report/case series	7	8.2%
Ecological studies	6	7.1%
Economic studies	3	3.5%

Age*

	n	%
Child (0-12 year old)	26	30.6%
Adolescent (13-18 year old)	57	67.1%
Adult (19-64 year old)	63	74.1%
Older people (over 65 year old)	42	49.4%
n/a	16	18.8%

Poverty dimension*

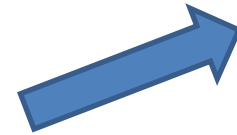|	n	%
Absolute poverty	0	0.0%
Relative poverty	2	2.4%
Economic status and wealth assets	33	38.8%
Unemployment	48	56.5%
Economic/financial problems	19	22.4%
Debt	5	5.9%
Support from the welfare system	1	1.2%
Economic crisis	2	2.4%
National income	6	7.1%
National inequality	0	0.0%
Composite poverty measure	1	1.2%

Suicide dimension*

	n	%
Fatal suicide	65	76.5%
Non-fatal suicide	64	75.3%

*The same study may have been evaluating more than one age group and/or poverty measure and/or suicide dimension.
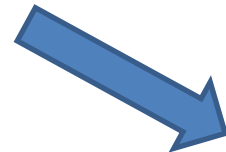
Results: Relationships between suicide-poverty

Statistical method	n
Descriptive statistics	68
Bivariate analysis	36
Multivariate analysis	31

Relationship between poverty-suicide	n
Unclear	68

Relationship between poverty-suicide	n
Positive	22
Negative	0
Null	12
Unclear	1

Relationship between poverty-suicide	n
Positive	15
Negative	1
Null	13
Unclear	2

Results: Relationship between unemployment and suicidal behaviours

Number of studies reporting on the relationship between unemployment and fatal and non-fatal suicidal behaviours by method of statistical analysis and nature of association

		Positive	Negative	Null	Unclear	Total
Fatal suicide	Descriptive				14	14
	Bivariate	2	0	1	0	3
	Multivariate	1	0	1	1	3
Non-fatal suicide	Descriptive				17	17
	Bivariate	5	0	3	0	8
	Multivariate	2	0	4	0	6

Results: Relationship between debt and suicidal behaviours

Number of studies reporting on the relationship between debt and fatal and non fatal suicidal behaviours by method of statistical analysis and nature of association

		Positive	Negative	Null	Unclear	Total
Fatal suicide	Descriptive				2	2
	Bivariate	2	0	0	0	2
	Multivariate	0	0	1	0	1
Non-fatal suicide	Descriptive				0	0
	Bivariate	0	0	0	0	0
	Multivariate	0	0	0	0	0

Examples of country level analysis

Number of studies reporting on the relationship between national income and fatal and non fatal suicidal behaviour by method of statistical analysis and nature of association

		Positive	Negative	Null	Unclear	Total
Fatal suicide	Descriptive				1	1
	Bivariate	0	0	0	1	1
	Multivariate	2	0	1	1	4
Non-fatal suicide	Descriptive				0	0
	Bivariate	0	0	0	0	0
	Multivariate	0	0	0	0	0

Number of studies reporting on the relationship between income inequality and fatal and non-fatal suicidal behaviour by method of statistical analysis and nature of association

		Positive	Negative	Null	Unclear	Total
Fatal suicide	Descriptive				0	0
	Bivariate	0	0	0	0	0
	Multivariate	0	0	0	0	0
Non-fatal suicide	Descriptive				0	0
	Bivariate	0	0	0	0	0
	Multivariate	0	0	0	0	0

Conclusion:

- Most evidence in **South Asia** and **Middle, East and North Africa**, with a relative dearth of studies from countries in Sub-Saharan Africa

- Most evidence in **upper middle income countries**, with only 6% of studies coming from low income countries.

- Most evidence on **unemployment** and **economic status,** while neglecting dimensions such as debt, relative and absolute poverty, support from welfare system or food security.

- Most **descriptive studies**, which makes drawing meaningful conclusions difficult.

- Most studies (55%) using bivariate and multivariate analysis suggest a **positive association** between poverty and suicide in LMICs, whilst a lower number (35%) suggests **null association**.

- More robust evidence is needed in this area, with studies which focus on a wider range of poverty dimensions and employ more sophisticated statistical methods.

Thanks for your attention!

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