

**Welcome
To
Bangladesh**

Risk factors of suicide and para suicide in rural Bangladesh

Dr. S M Nurul Islam
Co-investigator
Assistant Professor, Medicine
Shaheed Suhrawardy Medical College, Dhaka

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Conducted by

Department of Medicine, Shaheed Suhrawardi
Medical College, Dhaka

National Institute of Mental Health, Dhaka

Background

- Suicide and para suicide is a serious public health problem all over the world
- Almost 1 million people die from suicide worldwide every year; mortality rate: 16/100,000/year
- Approximately 1.53 million people will die from suicide by the year 2020

Background-cont.

- 1 death every 20 seconds and 1 attempt every 1- 2 seconds
- Globally, nearly 60% of these deaths are among young adults in their productive years of life
- Largest number of suicides are found in Asia
- 30% of all cases of suicide worldwide are committed in China and India alone

Suicide in Bangladesh

- In Bangladesh this trends of suicide is increasing day by day
- Nearly 15% of hospital admissions are due to self-poisoning
- 600 suicides per month during 1972 - 1988 to 984 per month during 1992 - 1993
- Estimated national rates 8 per 100, 000 for the period 1972 - 1988 and 10 per 100, 000 during 1992 - 1993

Suicide in Bangladesh-cont.

- Girls aged 19 to 29 are more likely to commit suicide, and attempt suicide than boys
- A recent study shows that mortality from suicide occurred at a rate of 39.6 per 100,000 population per year from 1983-2002

Suicide in Bangladesh-cont.

- Among young people, 10-19 years , suicide accounted for 42% of deaths
- 89% of suicide-associated deaths in this age group were in females
 - ICDDR,B Health and Science Bulletin Vol. 1 No. 5 December 2003

Suicide in Bangladesh-cont.

- By the year 2010 we have conducted a study in a selected area of rural Bangladesh
- Observed prevalence of suicide was very high in that locality of rural area (128/100,000)
- Major cause of mortality in young female between 20 -29 years of age

World wide known risk factors for suicide

- Psychiatric disorders
- Past suicidal attempts
- Sociodemographic risk factors
- Environmental risk factors
- Major physical illness-especially recent
- History of trauma, abuse or being bullied
- Family history of death by suicide
- Drinking/Drug abuse

Objectives of the study

General objective

To unearth the **potential risk factors** of suicide or suicidal attempts

Specific objectives

- To assess **psychiatric illness** as risk factor for suicide and its attempts
- To assess **non psychiatric co-morbidity** as risk factor for suicide and its attempts

Specific objectives-cont

- To assess individual's **behavioral** and **physical factor** that may precipitate suicide and its attempts
- To assess **familial risk factors** of suicide and its attempts
- To determine **Sociodemographic risk** factors of suicide and its attempts

Rationale

- Identification of risk factors for suicide is very essential
- This predictors of suicide or attempt might serve as resource for policy formulation in prevention and mitigation of suicide and the aftermath
- There is extreme dearth evidence on risk factors of suicide in or attempt in Bangladesh

Methodology

Study design

Case control study

Study area

Chuadanga sadar and Damurhuda Upazilla

District Chuadanga

Methodology – cont.

Selection of study area

- Highly prevalent area
- Relatively fixed population
- Good communication

Study period

- From January/2011 to June/2011

Inclusion criteria

Case : All prevalent individuals who have committed or attempted suicide in last 24 months

Control: Age, sex and socioeconomic status matched alive individuals of the same house or nearest house

Exclusion criteria

The household head of the persons who have committed or attempted suicide not willing to take part in the study

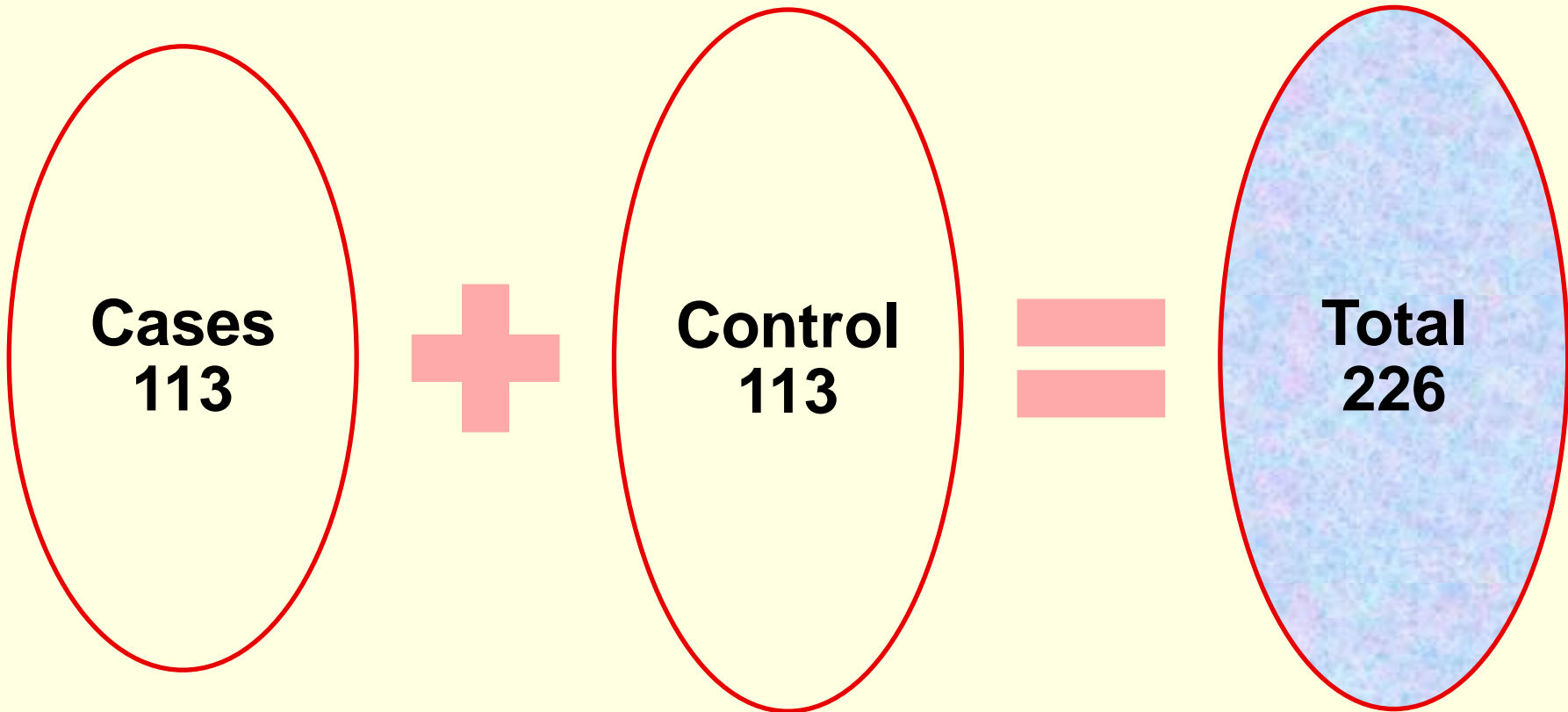
Collection of data

- Psychological autopsy methodology were used
- Sources of information were the house hold head or the nearest neighbor or the social known allied person

Collection of data–cont.

- Cases and controls were interviewed by a group of experienced psychiatrists
- Semi structured pre-tested questionnaires were used
- The Structured Clinical Interview for DSM-IV Axis Disorder (SCID) was used

Sample size (OR considered for calculating sample size)



Statistical analysis

- **Univariate analysis** has been carried out to find out the **association** between individual factors and the risk factor of suicide
- **Conditional logistic regression** was used to account for the matched design
- **Multivariate models** were generated to identify risk factors independently associated with suicide or attempt

Results and observation

Socio demographic variables

	Variables	Case	Control	statistics
Age				
	< 20 years	19 (16.8)	21 (17.9)	$\chi^2=.412$ df =3 P= 0.938
	20 - 39 years	74 (65.5)	74 (63.2)	
	40 - 59 years	14 (12.4)	17 (14.5)	
	>=60 years	6 (5.3)	5 (4.3)	
Sex				
	Male	44 (38.9)	50 (42.7)	$\chi^2=0.34$ df =2 P= 0.558
	Female	69 (61.1)	67 (57.3)	
Family size				
	< 4	34 (30.1)	32 (27.4)	$\chi^2=1.5$ df =2 P= 0.476
	4 - 6	66 (58.4)	65 (55.6)	
	> 6	13 (11.5)	20 (17.1)	

Socio demographic variables-cont

Marital status				
	Unmarried	24 (21.2)	29 (24.8)	$\chi^2=1.12$ df =2 P= 0.571
	Married	87 (77.0)	84 (71.8)	
	widow	2 (1.8)	4 (3.4)	
Family type				
	Unitary	82 (72.6)	85 (72.6)	$\chi^2=1.03$ df =2 P= 0.713
	Joint	31(27.4)	29 (24.8)	
	Extended	0 (.0%)	3 (2.6%)	
Family monthly income				
	less than 3000	12 (10.6)	11 (9.4)	$\chi^2=2.57$ df =3 P= 0.462
	3000-5000	79 (69.9)	75(64.1)	
	5000-10000	17 (15.0)	20 (17.1)	
	More than 10000	5(4.4)	11(9.4)	

Emotional factors

	Case	Control	OR (95% CI)
Problem in relationship	5 (4.4)	1 (.85)	5.2 (1.8, 21.4)*
Personality crisis	27 (23.9)	3 (2.6)	11.9 (3.5, 40.6)*
Workplace problem	1 (0.9)	1 (0.9)	1.1 (0.9 16.8)
Relation break up	7 (6.2)	2 (1.7)	3.8 (0.8, 18.7)
Death of near relative	5 (4.4)	6 (5.1)	0.9 (0.3, 2.9)
Felt economic hardship	21 (18.6)	10 (8.5)	2.4 (1.1, 5.4)*
Poor academic performance	4 (3.5)	3 (2.6)	1.4 (0.3, 6.4)
Difficulty in coping with study	3 (2.7)	1 (0.9)	3.2 (0.3, 30.9)

Co-morbidity related factor

	Case	Control	OR (95% CI)
Long term Physical disability	8 (7.1)	2 (1.7)	4.4 (0.91, 21.10)
Chronic Disease	22 (19.5)	9 (7.7)	2.9 (1.27, 6.6)*
Physical problem	16 (14.2)	8 (6.8)	2.2 (.92, 5.48)

Personal habit related factor

	Case	Control	OR (95% CI)
Drink alcohol regularly	5 (7.1)	1 (1.7)	5.4 (0.62, 46.7)
Ever drink alcohol	6 (5.3)	1 (0.9)	6.5 (0.77, 54.9)

Familial psychiatric history

	Case	Control	OR (95% CI)
Mental problem in family	13 (11.5)	6 (5.1)	2.4 (0.88, 6.57)
Suicidal attempt by any relative	55 (48.7)	18 (15.4)	4.2 (1.63, 7.23)*
Previous attempt to suicide	49 (43.3)	11 (9.4)	7.4 (3.57, 15.21)*

Familial suicide predisposition

	Case	Control	OR (95% CI)
Not staying with parents	6 (5.3)	2 (1.7)	3.2 (0.64, 16.32)
Conjugal feud	53 (46.9)	21 (17.9)	4.0 (2.22, 7.35)*
Violence within the Family	74 (65.5)	25 (21.4)	6.9 (3.8, 12.6)*
Divorce in parents	2 (1.8)	3 (2.6)	0.7 (0.11, 4.18)

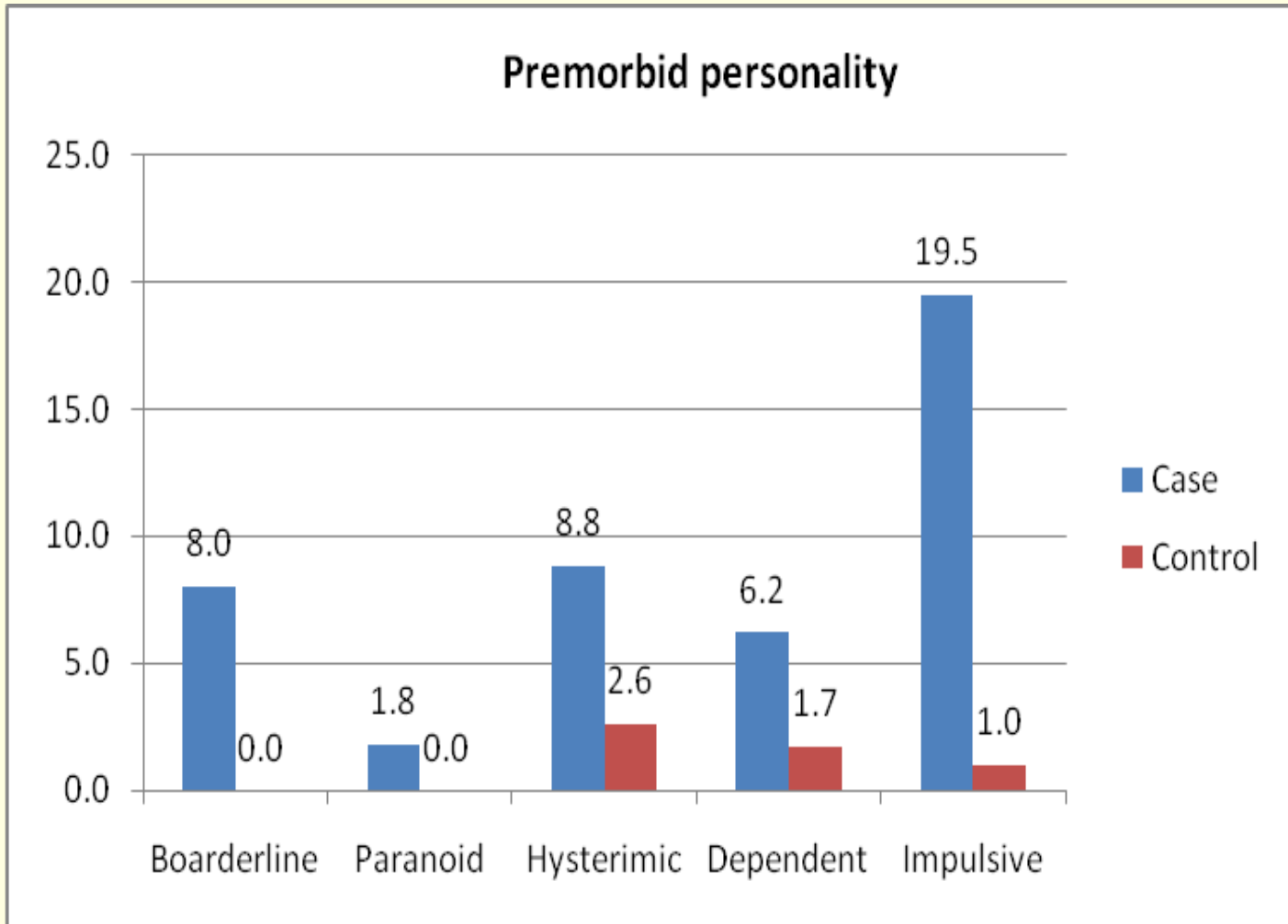
Individual factor and mental state

	Case	Control	OR (95% CI)
Sleeping problem	20 (17.7)	10 (8.5)	2.3 (1.03, 5.16)*
H/o recent delivery	01 (1.4)	3 (3.3)	1.7 (0.63, 7.23)
Worry about future uncertainty	18 (15.9)	3 (2.6)	7.2 (2.05, 25.17)*

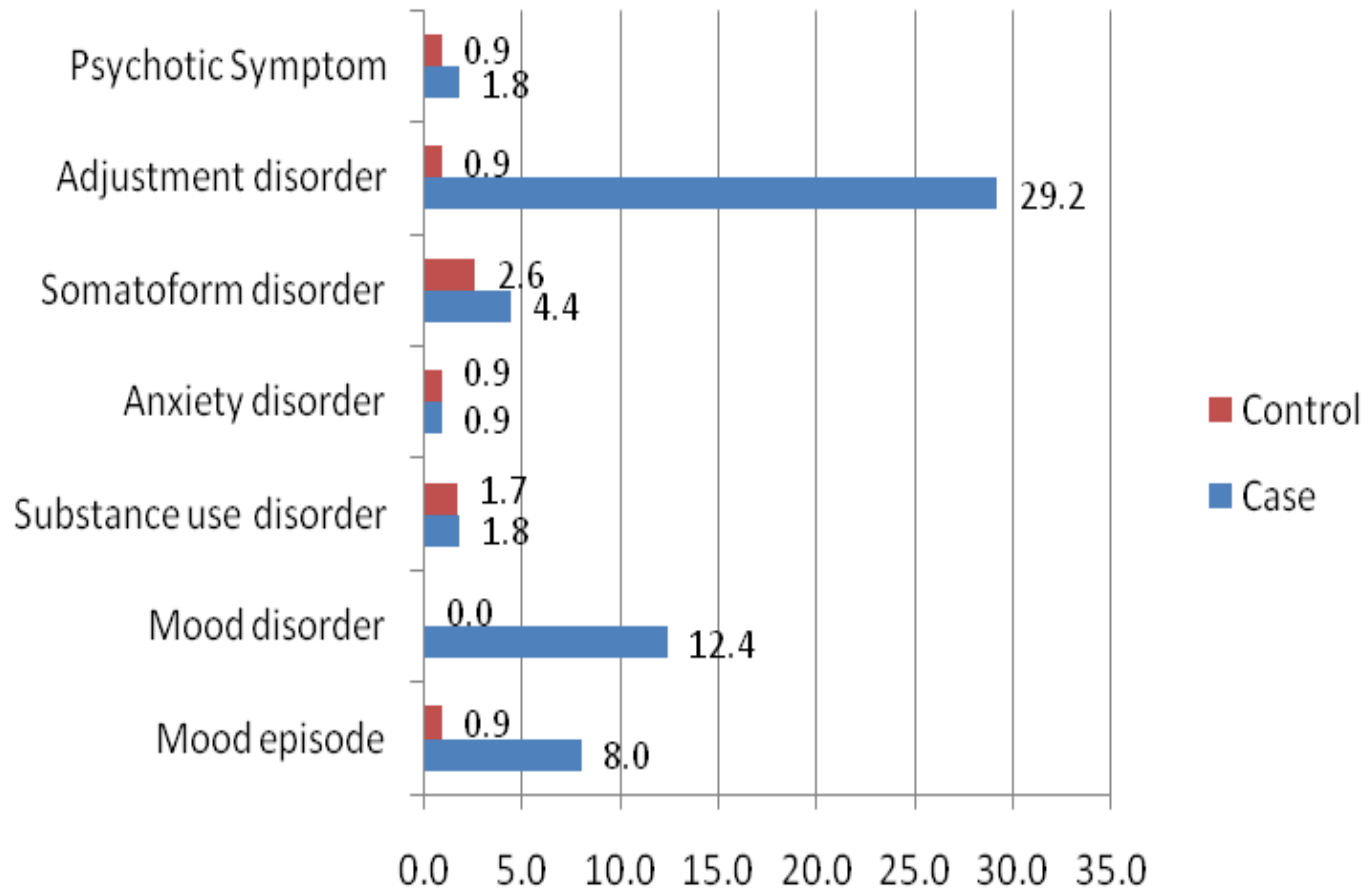
Individual factor and mental state-cont.

Mood change	12 (10.6)	1 (0.9)	13.8 (1.7, 107.9)*
Criminal behavior	03 (2.6)	1 (0.8)	2.1 (1.8, 2.35)*
Delusion	03 (2.6)	4 (3.4)	0.77 (0.17, 3.52)
Hallucination	04 (3.5)	1 (0.9)	4.3 (0.47, 38.7)

Premorbid personality



Psychiatric syndrome



Identified risk factors

- Problem in relationship
- Personality crisis
- Chronic disease
- Suicidal attempt by any relatives
- Previous attempt to suicide
- Worry about future uncertainty
- Felt economic hardship
- Criminal behaviour
- Sleeping problem

Psychiatric risk factors

- Adjustment disorder
- Mood disorder
- Mood episode
- Impulsive
- Hysteremic
- Borderline
- Dependent

Among the cases this factors were observed more

Conclusion

- This study shows a **significant association** of suicide and para suicide with the persons suffering from problem in relationship, personality crisis, previous attempt to suicide, worry about future uncertainty, felt economic hardship etc
- Among the person of suicide and para suicide the psychiatric illness is more

Recommandation

- A **large scale nation wide survey** can be planned to find out the regional variation of suicidal trends and risk factors of suicidal behavior
- **Psychiatric counseling** of regional population and **treatment** of the premorbid psychiatric syndromes can reduce the prevalence of suicide and para suicide in Bangladesh

THANK YOU

