

A simple equation:

$$1 + 1 = 2$$

Dr. Patrick Lustman, Professor of Psychiatry at Washington University School of Medicine in St Louis has changed the equation !!!



*"One plus one equals much more than two
when you add diabetes and depression"*

Diabetes + Depression = More than 2

Over the 10 years research on diabetes and depression Prof. Lustman concluded:

- “20 studies over the past 10 years, the prevalence rate of depression among diabetic patient is **three to four times** greater than in the general population”

Diabetes & depression: Bangladesh Initiative

A Study started on 2014

Principal Site Investigator (PSI): Prof. Md. Golam Rabbani

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INTERPRET-DD

The International Prevalence and Treatment of Diabetes and Depression Study

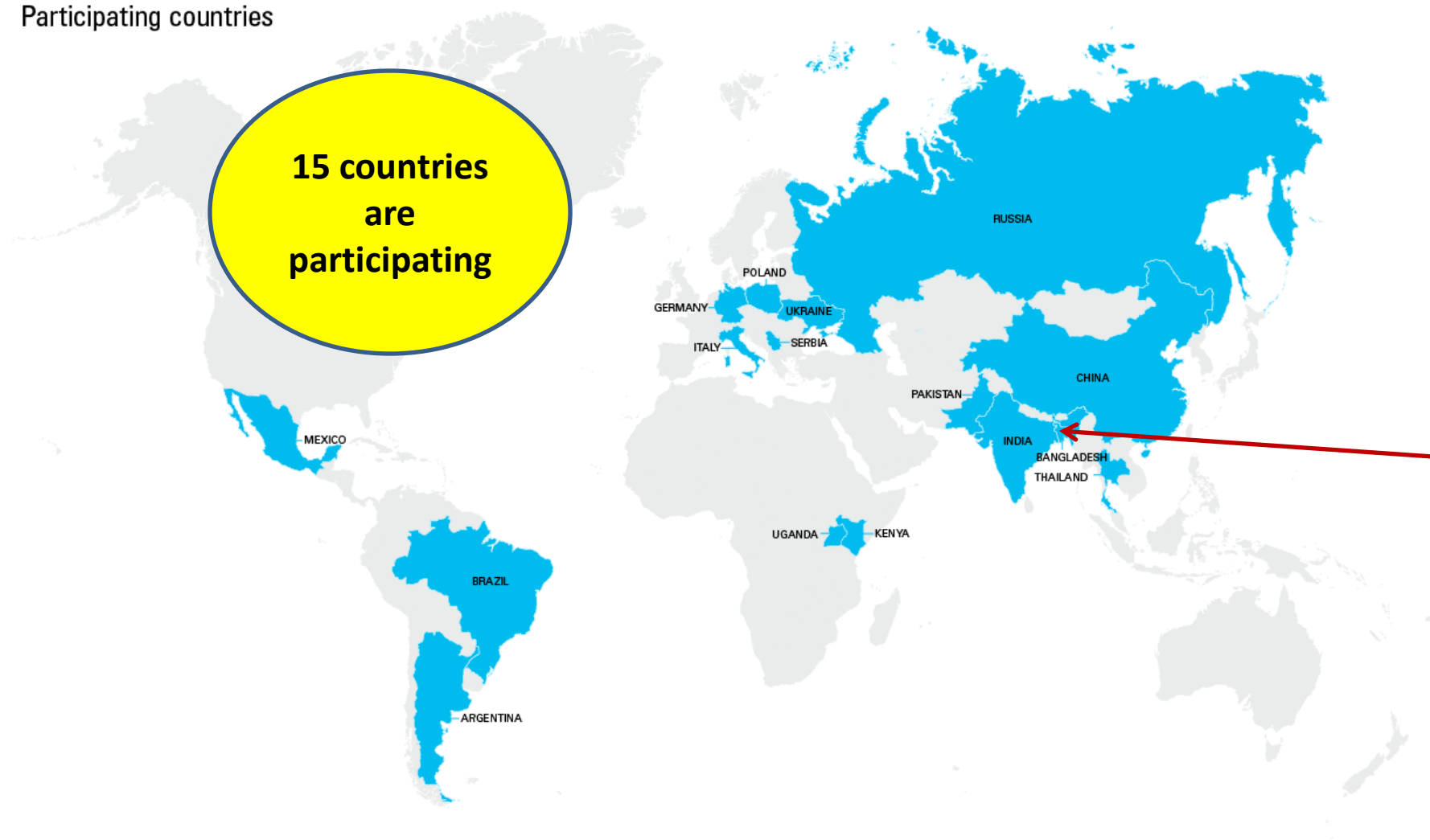
**The first world wide network of people researching the experience,
treatment and care of people with co-occurring diabetes and
depression**

Two-year longitudinal study

International Prevalence and Treatment of Diabetes and Depression Study (INTERPRET-DD)

Participating countries

**15 countries
are
participating**



Objectives

- To estimate the prevalence and incidence (over 12 months) of depressive disorders and diabetes-related distress
- To describe the course and treatment of type 2 diabetes in people with and without depressive disorders over a 12 month follow-up period
- To assess the impact of the identification and appropriate treatment of depression (both previously diagnosed as well as unrecognised) on the course of diabetes, and on emotional well-being.

Study Overview

- Study population: 200 adults/country with type 2 diabetes
- Baseline: demographic information
medical records
screening tools
clinical interview
- Follow-up: pathways to care

Tools

- PHQ-9
- WHO-5 questionnaires
- Hamilton Rating Scale for Depression
- Mini International Neuropsychiatric Interview (MINI-6)
- Holmes and Rahe Social Readjustment Rating Scale

Partial Result of First Phase

All data are analyzing in the UK

First phase data has collected in
Bangladesh and waiting for analysis

Few Findings

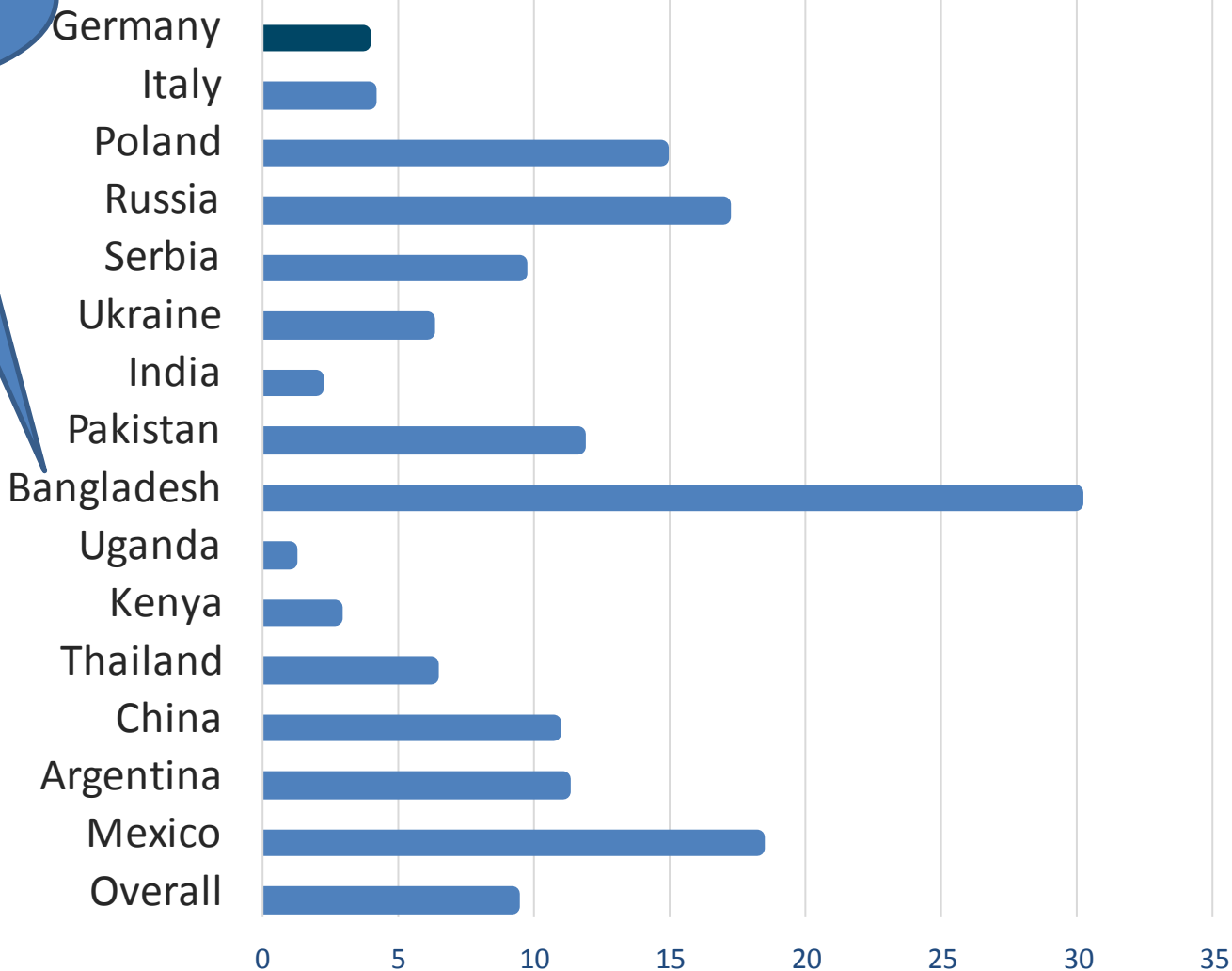
- INTERPRET-DD: the first study of its kind – 15 countries across the world
- MDD prevalence – overall in line with literature (variation between countries)
- High proportion reporting depressive symptoms (PHQ-9)
- Past MDD most important predictor of current MDD
- Documentation of depression / depressive symptoms appears to be poor – at least in diabetes clinic records

Country (N)	% male	Age (\pm SD)	Duration of DM Year (\pm SD)
Germany (138)	60.9	52.9 (9.2)	7.7 (8.3)
Italy (203)	58.6	56.4 (7.2)	9.9 (7.5)
Poland (218)	53.7	51.3 (7.3)	9.5 (7.0)
Russia (200)	23.5	56.7 (7.3)	8.9 (6.1)
Serbia (200)	43.5	58.4 (5.7)	9.3 (6.0)
Ukraine (132)	44.7	46.5 (12.0)	8.8 (6.6)
India (197)	52.8	52.2 (9.9)	8.3 (6.6)
Pakistan (207)	44.9	51.3 (8.7)	8.3 (6.1)
Bangladesh (40)	50.0	48.0 (10.0)	8.7(5.7)
Uganda (199)	34.2	50.4 (9.4)	6.9 (5.5)
Kenya (185)	26.6	50.0 (10.8)	7.2 (6.1)
Thailand (193)	36.8	55.5 (7.4)	11.6 (6.9)
China (396)	52.0	55.3 (16.2)	9.2 (7.0)
Argentina (135)	51.9	57.0 (6.4)	9.8 (6.4)
Mexico (203)	36.5	53.3 (8.2)	11.3 (7.9)

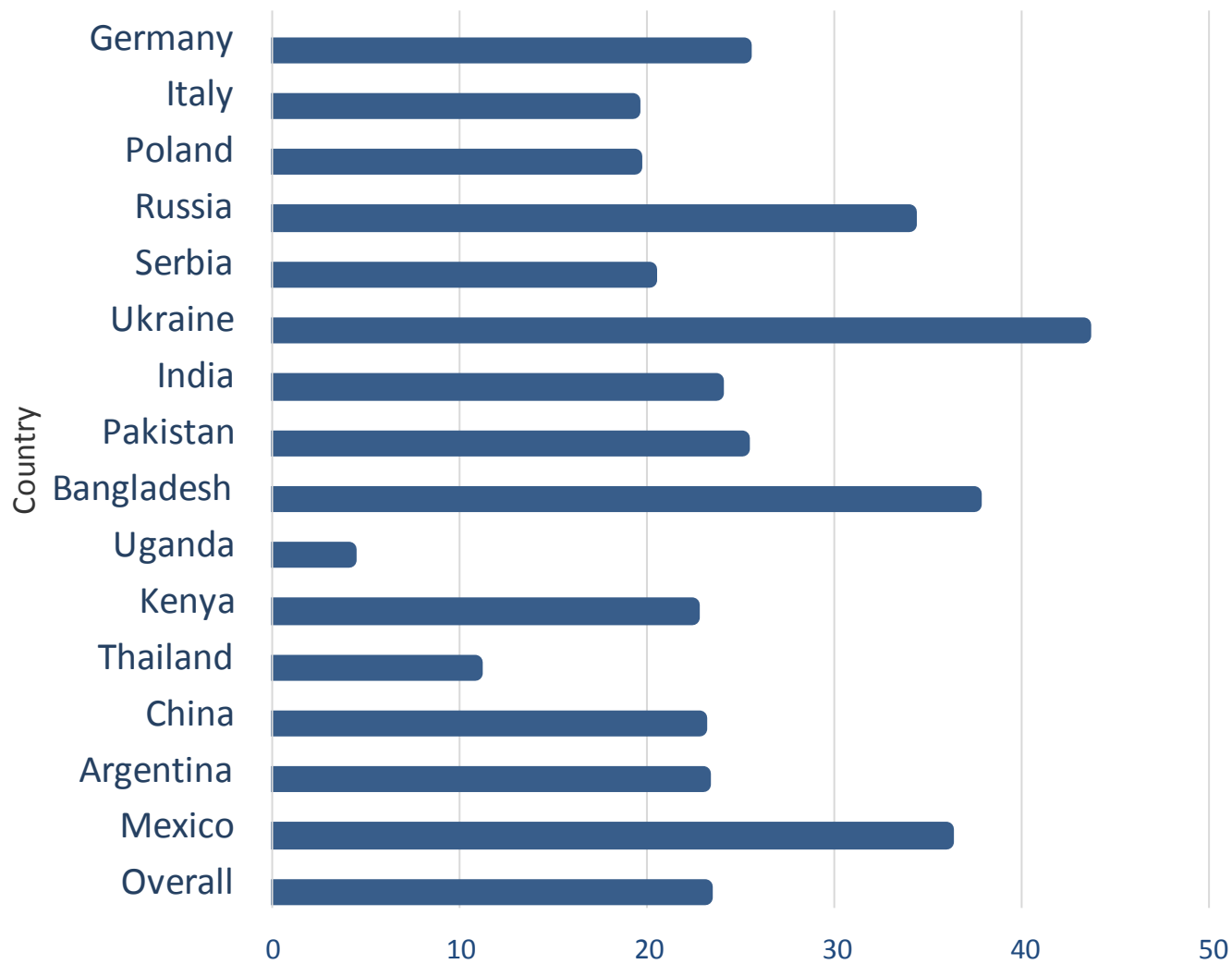
19% had
past history
of MDD

MDD (%) diagnosed at interview

Country



PHQ-9: >7



Other issues in Bangladesh

- MDD (Clinical Depression) prevalence is High but the **documented diabetic complications** are low than other countries
- **No antidepressants** prescribed those who have past depression
- **Very few cases (only 2)** were referred to Psychiatrists though the study institutes having qualified psychiatrists
- **No component of mental health** was included in health education/diabetic counseling

Dialogue on Diabetes and Depression (DDD), Dhaka : June 2014



Meeting at Madrid, Spain-2014

NTERPRET-DD Study Group



Meeting at Bangalore-India: 2016

INTERPRET-DD Study Group



Mentally depressed diabetics face four times greater complication

Moniruzzaman Uzzal

Mental depression suffered by a large number of diabetics remains undiagnosed, causing the complications of the disease to be four times greater among the depressed patients than ones with healthy state of minds, claims a leading specialist of the field.

Professor Norman Sartorius, president of the Association for the Improvement of Mental Health Programmes and former director of the World Health Organisation's Division of Mental Health, made the comment yesterday when speaking to the Dhaka Tribune.

Diabetologists, general physicians and psychiatrists should work together to ensure proper treatment for the diabetic patients who suffer from depression as well, he said.

Claiming that doctors could easily recognise depressed patients by asking a few simple questions, Sartorius added that correct diagnosis would reduce the complications of multi-disease and lower treatment costs for the patients.

Sartorius arrived in Dhaka to attend a three-day workshop titled "Dialogue on Diabetes and Depression" which ended yesterday at the city's Bangabandhu Sheikh Mujib Medical University (BSMMU) auditorium. The programme was jointly organised by the Association for Study of Mental Health in Bangladesh and Association for the Improvement of Mental Health Programme.

More than 80 doctors from Birdem, National Healthcare Network, National Institute of Mental Health and Bangladesh College of General Practitioners

participated in the programme, which was also addressed by specialists Professor Linda Gusk and Dr Abdul Javed from the United Kingdom, and Dr SK Chaturvedi from India.

Dr Golam Rabbani, president of the Association for Study of Mental Health in Bangladesh, told the Dhaka Tribune that it was not possible to solve the problem without the active participation of diabetologists and general physicians, as there are only a limited number of psychiatrists in the country.

Dr Md Waziul Islam Chowdhury, director of National Institute of Mental Health, said around 4.6% of the adult population in Bangladesh have been suffering from depression.

According to the International Diabetic Federation, around 12% people in Bangladesh suffer from diabetes. ●



Research: Educational and Psychological Issues

The INTERPRET-DD study of diabetes and depression: a protocol

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Abstract

Aim People with diabetes are at an increased risk of developing depression and other psychological disorders. However, little is known about the prevalence, correlates or care pathways in countries other than the UK and the USA. A new study, the International Prevalence and Treatment of Diabetes and Depression Study (INTERPRET-DD) aims to address this dearth of knowledge and identify optimal pathways to care across the globe.

Method INTERPRET-DD is a 2-year longitudinal study, taking place in 16 countries' diabetes outpatients' facilities, investigating the recognition and management of depressive disorders in people with Type 2 diabetes. Clinical interviews are used to diagnose depression, with clinical and other data obtained from medical records and through patient

More 7 Papers in Pipeline...

- **Title :**

1. Emotions and health literacy
2. The INTERPRET-DD study: Co-morbidity of depression and diabetes in 16 countries
3. Book on Case Reports: Diabetes & Depression
4. Report of the baseline study taking a psychiatry focus
5. Report of the baseline data taking a diabetes perspective
6. The association between diabetic neuropathy and depression
7. The sensitivity and specificity of the PHQ-9, WHO-5 and the PAID

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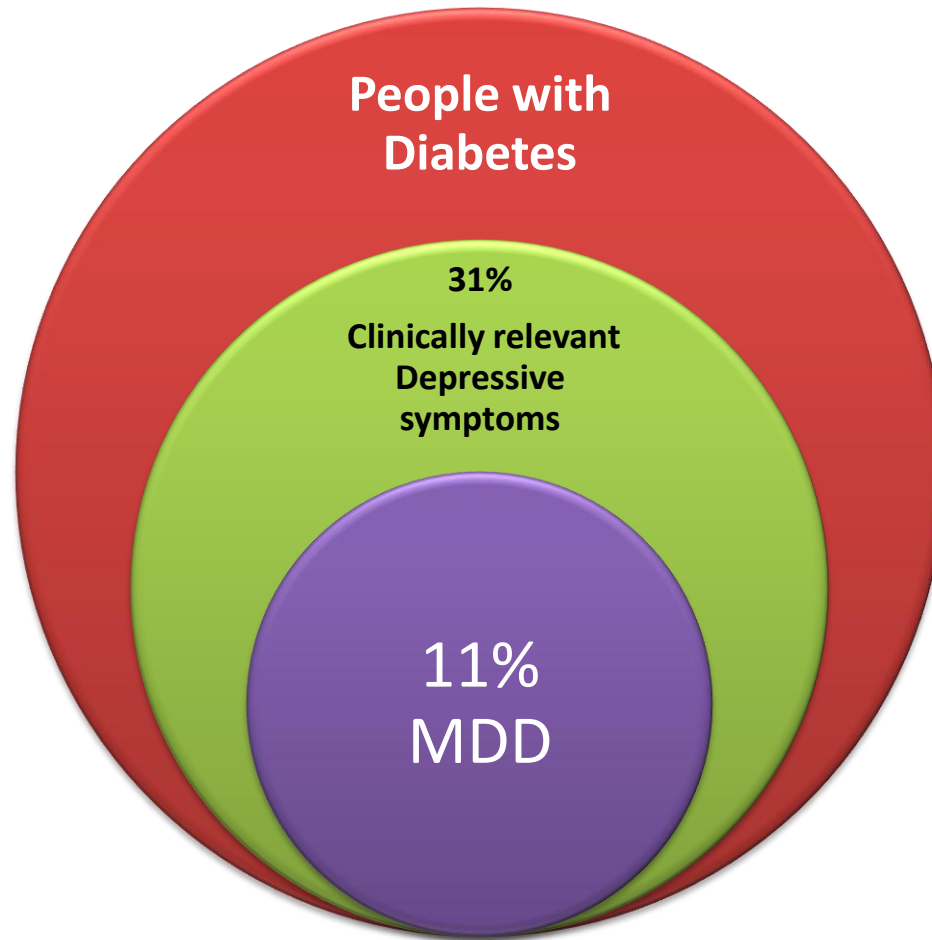
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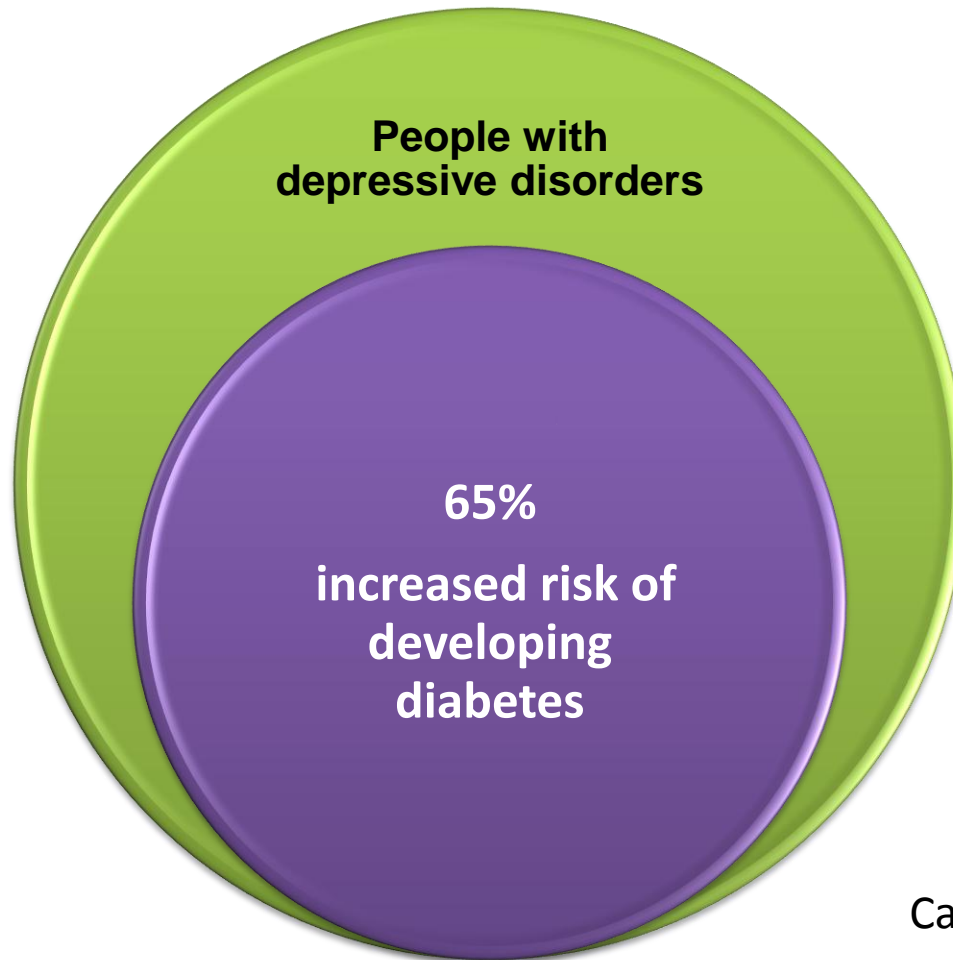
Take home messages

Epidemiology of Depression in Diabetes



Anderson et al., 2001

Epidemiology of Depression in Diabetes



Campayo et al., 2010

Depression & Diabets : Bangladesh Perspective

Prevalence of Depression among adult population
[with or without DM]: 4.6%
(Firoz et al, 2005)

Prevalence of Type 2 DM : 9.7%, PreDM: 22.4%
(<http://www.who.int/bulletin/volumes/92/3/13-128371/en/>)

Depression & Diabetes Bangladesh Perspective

Depression among the patients with Diabetes:
15.3%-36% (Bhowmik B et al, 2012)(Roy T et al
2012)(Asgar et al, 2007)

Management: Specific drug therapy

- **Recommendation (Maudesley 12th Edn)**

- Use SSRI first line (Sertraline, Fluoxetine, Escitalopram)
- SNRI also recommended but consider any co morbidity eg: HTN (Venlafaxine, Duloxetine)
- Avoid TCA & MAOIs if possible
- Monitor Blood Glucose & HbA1C periodically

- *Sertraline may cause hypoglycemia*
- *Venlafaxine and duloxetine may increase blood pressure*
- *Bupropion stimulates insulin secretion in individuals with low, threshold, and high glucose levels*
- *Mirtazapine is associated with weight gain, hypercholesterolemia, and hypertriglyceridemia*

Management : Non Pharmacological Therapy

- **Psycho education**
- Break down tasks in **self-management** of diabetes, depression, heart disease and other illnesses
- Consider adjunctive brief psychotherapy for emotional eating (**CBT**)
- Breaking down problems (**problem solving therapy**)
- Improving treatment adherence (**motivational interviewing**)

SSRI : Depression in Diabetes

- **Sertraline** conferred significantly greater prophylaxis against depression recurrence than did placebo in patient with Diabetes ($p=0.02$)
- Glycosylated hemoglobin levels decreased during the treatment with **Sertraline**.
- Maintenance therapy with **Sertraline** prolongs the depression-free interval following recovery from major depression.

[Lustman et al, 2006]

- Sertraline may cause hypoglycaemia
- It produce weight gain also

SSRI : Depression in Diabetes

- In comorbid diabetes mellitus and depression, evidences support the use of **fluoxetine** in control of glucose and weight maintainence.
- In terms of dosing, drug interactions, cognition, and diabetes control **sertraline** also an effective agent.

Goodnick PJ, 2001

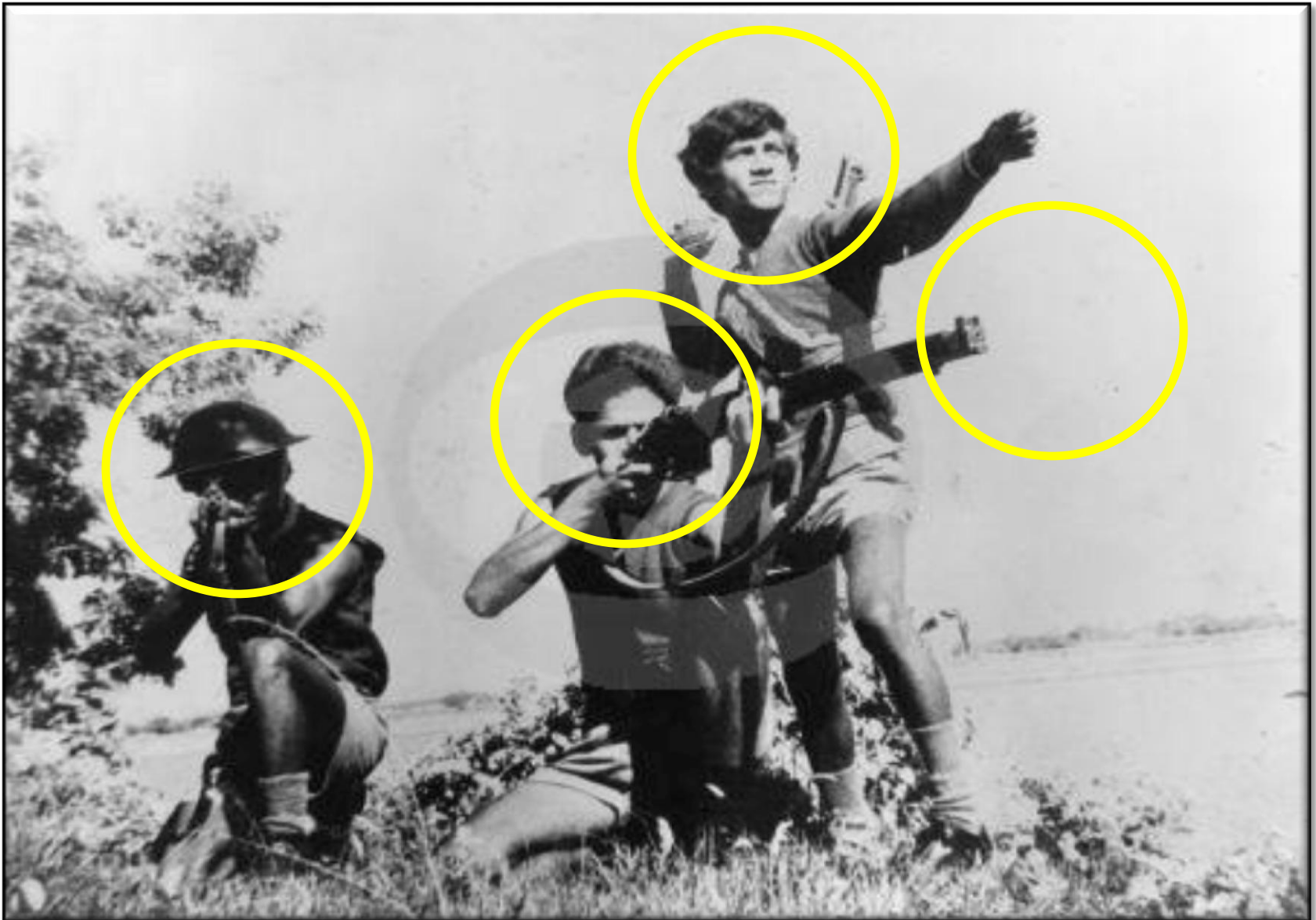
Last another equation for Success

Aims +

Concentration +

Motivation +

Action



= Success

