





## Project mPareshan

# A digital intervention to reduce anxiety & depression at community doorsteps in rural Pakistan through frontline workers: Lessons for LMICs

November 15, 2023

Dr. Fauziah Rabbani

Chief Implementation Research & Innovation, BMI Noordin M. Thobani Professor Department of Community Health Sciences

### Background – Global, LMIC & Pakistan Context

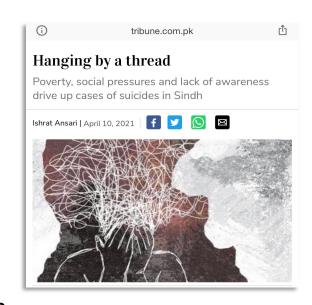
#### World Mental Health Report 2022, WHO

- 13% of the global population is living with mental disorders
- 82% are from LMICs
- LMICs face several gaps in public mental health service delivery including governance, resources, & research gaps

#### Sindh Mental Health Report 2017

- 10% of all suicides in Sindh occur in Badin
- According to a 2018 HRC report, the causes are:
  - · lack of necessities of life,
  - lack of peace & political instability,
  - unemployment, poverty & homelessness
  - family disputes

GAP: Lack of specialized care, & underprioritization of mental healthcare

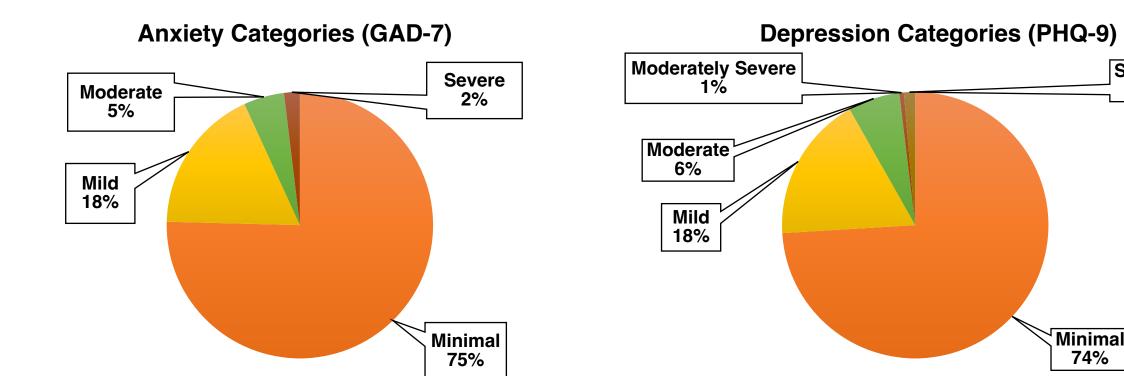


### mPareshan: Data Collection Methods

Project Phase	Phase 1: Pre-intervention			Phase 2: Intervention	Phase 3: Post-intervention	
Data collection	Qualitative data	data Quantitative data		Intervention Rollout	Qualitative data	Quantitative data
Research Question	FGDs & KIIs	Household Survey: PHQ-9, GAD-7 & UCL LS- 10	mhGAP based training	Feedback received through mPareshan App on regular basis	FGDs & KIIs	Endline: PHQ-9, GAD-7 & UCL LS- 10
WP1: What is the point prevalence of anxiety and depression among a sample of rural households?		<b>✓</b>				
WP2: Is it feasible to implement an mHealth strategy executed through LHWs and their Supervisors?	✓				$\checkmark$	
WP3: Is there a change in LHW knowledge and skill in assessing, diagnosing, and managing depression and anxiety because of the intervention?			<b>√</b>			
WP4: Is there any change in anxiety and depression scores of community participants because of mPareshan App?						<b>√</b>

## Work Package 1: Point Prevalence of Anxiety & Depression (n=366)

Severe



Participants with mild & moderate symptoms of anxiety & depression (n = 98)

Eligible for mPareshan Intervention

### Work Package 2: Feasibility, Operability, Usefulness, & Task-Technology Fit of mPareshan app for Delivering Mental Health Services by CHWs in Rural Areas of Pakistan

Implementation Outcomes: Re-AIM Framework

**Acceptability** 

Adoption

Appropriateness

Cost

**Feasibility** 

**Fidelity** 

**Penetration** 

Sustainability

Perceptions of stakeholders about delivering MH services through CHWs by mHealth application in a rural Pakistani community

Will an mHealth
application be
acceptable to CHWs to
manage anxiety &
depression in a rural
Pakistani community?

What will be the barriers & facilitation for CHWs' in using the mHealth app to manage anxiety & depression in a rural Pakistani community?

What is the operability, usefulness, and task-technology fit of the mPareshan app to the end-users?









<u>Pre-intervention phase</u>: General perceptions of the stakeholders regarding using mHealth application for delivering MH services at community doorsteps via LHWs

**Post-intervention phase:** 

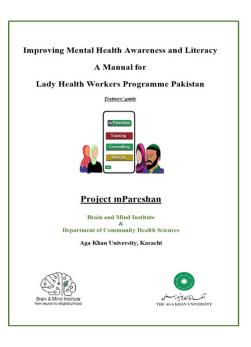
Perceptions on using the mPareshan app

## Work Package 3: Pre- and post Knowledge & Skills Assessment of CHWs

- Purpose was to enable LHS/LHW to:
  - Recognize the symptoms of anxiety & depression
  - Improve communication and counselling skills.
  - Make appropriate referrals

Content adapted from mhGAP 2.0

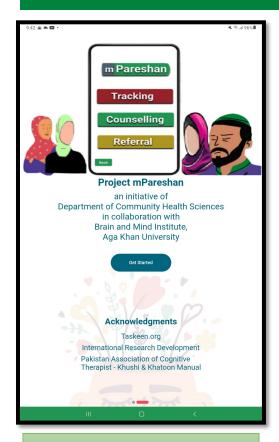




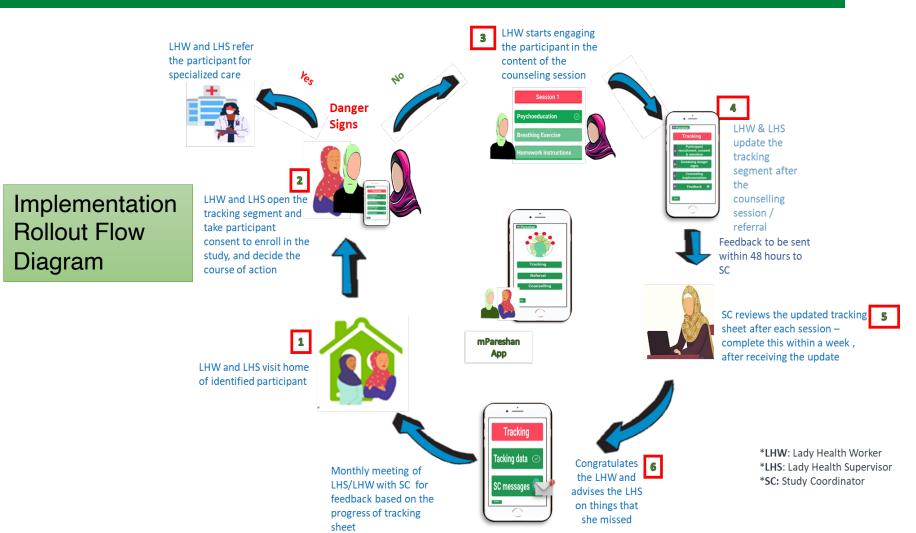
Difference between knowledge and skill's score of CHWs after capacity-building training

GROUP	VARIABLE	PRE-TEST MEAN (SD)	POST-TEST MEAN (SD)	DIFF (P- VALUE)
OVERALL	Knowledge	4.36 (1.42)	8.17 (1.44)	3.81 (<.01)
(N=69)	Skill	8.25 (2.17)	9.84 (.63)	1.59 (<.01)
LHS (N=33)	Knowledge	4.60 (1.51)	8.27 (1.32)	3.66 (<.01)
	Skill	8.18 (2.49)	9.96 (.17)	1.78 (<.01)
LHW (N=36)	Knowledge	4.14 (1.31)	8.08 (1.55)	3.94 (<.01)
	Skill	8.30 (1.86)	9.72 (.84)	1.41(<.01)

#### mPareshan Intervention



Real look of the App



## Work Package 4: Change in Scores of Anxiety & Depression

#### Change in anxiety and depression scores post-intervention (n=92)\*

	Pre-intervention	Post- intervention	Pre-post change in scores		
	Mea	n (SD)	Mean Difference (SD)	Test statistic, t (df)	p-value
GAD7 total score	6.6 (3.0)	2.1 (2.3)	4.5 (3.5)	12.2 (91)	< .001
PHQ9 total score	7.5 (3.1)	2.6 (2.2)	4.9 (3.4)	14.1 (91)	<.001
		(0/)	Pre-post change in frequencies		
	N	(%)	Test statistic (χ2)	p-value	
GAD7 categories					
Minimal Anxiety	17 (18.5)	80 (87.0)	55.7	<.000	
Mild Anxiety	59 (64.1)	10 (10.9)	39.1	<.000	
Moderate Anxiety	16 (17.4)	2 (2.2)	**	<.000**	
PHQ9 categories					
Minimal Depression	11 (12.0)	78 (84.8)	65	<.000	
Mild Depression	60 (65.2)	13 (14.1)	37.1	<.000	
Moderate Depression	21 (22.8)	1 (1.1)	**	<.000**	

<sup>\*</sup> Pre- and post-intervention paired data available for 92 out of 98 SPs.

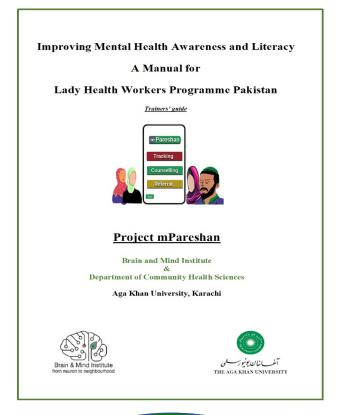


#### AKU launches the mPareshan Training Manual



Collaboration with Government: Minister Health endorses mPareshan Trainer's Manual for provincial scale up

## Project mPareshan: Research & Policy Impact



First ever Mental Health Curriculum for Community Health Workers



LHW imparts counseling using Android app at community doorsteps



mPareshan Digital App

### Lessons for LMICs: Lens of WHO Building Blocks

## Leadership & Governance

National MH Action Plans largely missing in LMICs

MH-friendly legislations to improve selfharm reporting

Advocacy & Awareness through media

#### Information System

Community-based surveillance systems

#### Health Workforce

Task-shifting to less specialized models of care like CHWs

Strengthening referrals within health systems skilled workforce deployment

## Healthcare Financing

Social safety nets & poverty alleviation schemes

#### Medical Technology

mHealth-based psychoeducation/social interventions for early screening & intervention

Testing innovative tech-based solutions

#### Health Service Delivery

De-stigmatization to improve access

Integration of MH into PHC

Healthy pathways in school for adolescents

MH-based antenatal services

### Project mPareshan Video

#### https://www.youtube.com/watch?v=KRSv5Ko\_7yg



mPareshan App | Brain & Mind Institute | The Aga Khan University (aku.edu)