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Framework for Engagement of Chronic Kidney Disease Patients With Their Integrated Management in South Africa

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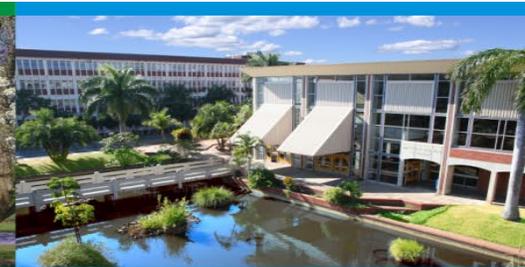
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Background

- Integrated management of CKD entails dialysis, medication, dietary and fluid restriction.
- Problems of engagement with integrated management among chronic kidney disease (CKD) patients have been observed locally, regionally and internationally
- Despite evidence to date on the importance of patient engagement, adherence to integrated management remains low
- Need to explore more interventions that will promote behaviour change among CKD patients

(Arogundade, et al, 2017 and Lo, 2016)

Measurement of adherence using various indicators from previous studies

Fluid adherence in Chronic Kidney Disease (CKD) population

Author, year	Sample size	Measurement	Non adherence	Adherence	Country
Bame et al, 1993	1230	IDWG	49.5 %	51.5%	USA
Leggart et al, 1998	6251	IDWG	9.7 %	90.3%	USA
Christensen, 1995	57	IDWG	42 %	58%	USA
Lee, 2001	60	SR	40.3 %	59.7%	China
Casey et al, 2002	21	IDWG	60 %	40%	UK
Vlamnick et al, 2002	564	SR	72 %	28%	Belgium
Durose, et al 2004	82	IDWG	23 %	77%	UK
Barnet et al, 2007	26	IDWG	53 %	47%	Australia
Kara et al, 2007	160	SR	68.1 %	31.9%	Turkey
Russel et al, 2008	107	IDWG	40 %	60%	USA
O Connor et al, 2008	73	IDWG	70 %	30%	UK
Lindberg et al, 2009	4498	IDWG	30%	70%	Sweden
Chan et al, 2012		IDWG	24.5 %	75.5%	Malaysia

Dietary adherence in Chronic Kidney Disease (CKD) patients

Author, year	Sample size	Measurement	Non adherence	Adherence	Continent
Bame et al, 1993	1230	Potassium	2 %	98%	USA
		Phosphorus	50 %	50%	
Leggart et al, 1998	6251	Phosphorus	22.1 %	77.9%	USA
Vlamnick et al, 2001	564	Self-report	81.4 %	18.6%	Belgium
Durose et al, 2004	82	Potassium	4 %	96%	United kingdom
		Phosphorus	31 %	69%	
Hecking et al, 2004	3039	Potassium	11.7 %	88.3%	France, Germany, Italy and Spain
		Phosphorus	23.8 %	76.2%	
Kugler et al, 2005	916	Self-report	81.4 %	18.6%	Germany and Belgium
		Phosphorus	23.8 %	76.2%	
Unruh, et al, 2005	739	Phosphate	33.3 %	66.7%	USA
		Potassium	58.1 %	41.9%	
Kara et al, 2007	160	Self-report	58.1 %	41.9%	Turkey
Russel et al, 2008	107	Phosphate	68 %	32%	USA
		Albumin	77 %	23%	
Ramdod, 2010	Not stated	Phosphate	25.5%	74.5%	Iran
		Potassium	5.5%	94.5%	
ŞGerbino, et al, 2011	Not stated	Protein	4.5 %	95.5%	Italy
		Potassium	16.4 %	83.6%	
Lee and Mollasiotis, 2002	62	Phosphate	30.2%	69.8	Hong Kong
		Potassium	38.7 %	61.3%	
		Phosphate	56.5%	43.55	
		Self-report	44 %	56%	

Purpose

- Developing a framework for
- Engagement of Chronic Kidney Disease (CKD) patients with their integrated management based on data from
- Selected tertiary hospitals of eThekweni District,
- KwaZulu-Natal Province, South Africa

Methods

- Part of a larger study which used
- A sequential explanatory mixed method design
 - Quantitative data to determine level of engagement with integrated management among CKD patients using:
 - A randomly selected sample of 90 patients
 - Collected and analysed, followed by
 - Qualitative case study to determine barriers and promoters to engagement with integrated management of CKD using
 - 12 purposively selected patients according to level of adherence
 - Respective caregivers
 - 6 Health care workers
- Development of framework using data from both quantitative and qualitative data

(Creswell, 2014)

Results

- 60% Low engagement with integrated management
- 32% low engagement
- Only 2% high engagement
- A significant and positive relationship ($r = .439$, $N = 90$, $p = .00$) between:
 - Age and engagement with integrated management
 - Age accounted for 19.3% of the variance on engagement with integrated management
 - Also significantly associated with occupation, support systems, monthly income and CKD class

Scale for engagement scores



Level of engagement	Scale
Low	79% & below
Moderate	80% to 89%
High	90% to 100%

Perceived Barriers to integrated management among all participants groups (patients, caregivers & HCW)

- Side-effects of dialysis and renal diet,
- Gastrointestinal problems,
- False perception of good health,
- Stress and depression,
- Unemployment, and
- Hot weather of the study area,
- Shortage of kidneys for transplant and
- Duration of dialysis procedure

(Chironda & Bhengu, 2019).

Perceived motivators for integrated management

- Family support
- Prospects of kidney transplantation
- Peer support
- Being aware of the complications associated with non-engagement with integrated management and
- Fear of being removed from the CKD programme including transplantation (Chironda, & Bhengu 2018).

Purpose of the patient engagement framework

- A model created to guide healthcare organizations in developing and strengthening their patient engagement strategies

(Edgman-Levitan et al, 2013)

- In our context, to guide CKD patients to actively engage with their integrated management to improve nephrology care

Framework

Definition of Concepts

- **Integrated management involves**
 - The knowledge, skills, ability, and willingness of patients to manage their own health care to improve health and health outcomes
 - In this study ability and willingness of CKD patients to actively participate with their integrated management for the purposes of improving quality of nephrology care
- **Modifying factors**
 - individual characteristics that influence personal perceptions, such as in CKD:
 - patient related, physiological, psychological, socioeconomic, environmental, system related, cultural and ethical as well as legal factors.

Framework

Definition of Concepts

- **Perceptions**

- A mental impression
- Risk of further progression of CKD, severity of CKD, barriers and benefits of integrated management

- **Interventions that promote engagement with integrated management**

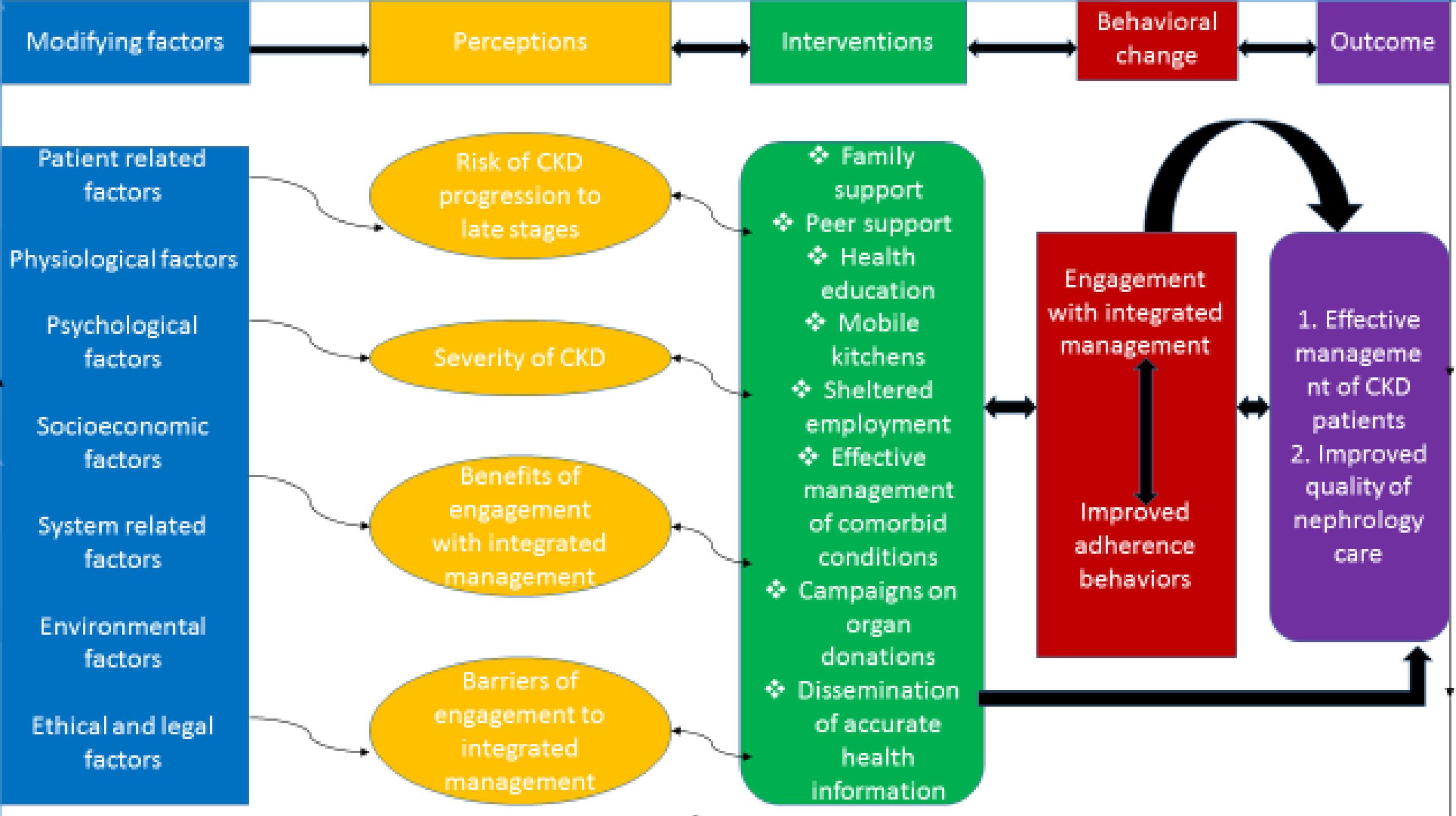
- Strategies designed to produce behaviour changes or improve health status
- Create change by
 - Influencing individuals' knowledge, attitudes, beliefs and skills,
 - Increasing social support and
 - Creating supportive environments, policies and resources

Framework: Definition of Concepts

- **Behavioural change of CKD patients**
 - Any transformation or modification of human [behaviour](#)
 - In CKD entails transformation of CKD patients' behaviour as a result of application of interventions that promote engagement with integrated management
- **Health outcomes**
 - Changes in health that result from measures or specific health care investments or interventions
 - Measured by level of engagement with integrated management which consequently reveals adherence among CKD patients

Relationships and structure of the framework

- Linkages among and between concepts as illustrated in the figure
- Provide clues regarding:
 - Theoretic purposes and
 - Assumptions on which the theory is based (Chin and Krammer, 2011)
- Next slide shows figure illustrating how modifying factors affect perceptions of barriers and promoters
- Perceptions inform interventions that promote engagement with integrated management among CKD patients
- Effective implementation of interventions impact on behaviour change of CKD patients
- Consequently outcomes which are operationalised as effective management and improved quality of nephrology care.



Assumptions

From the figure in the previous slide assumptions are as follows:

- The level of engagement with integrated management of kidneys can be modified by either positive or negative perceptions
- Modifying factors affect perceptions of barriers and promoters negatively or positively respectively
- Perceptions inform interventions that promote engagement with integrated management among CKD patients
- Effective implementation of interventions impact on behaviour change of CKD patients
- Consequently outcomes result which are operationalised as effective management and improved quality of nephrology care.

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