

A Comparative Analysis of the Levels of Self-Efficacy between Males and Females with Non-Communicable Diseases (NCDs)

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ABSTRACT

Non-Communicable Diseases (NCDs) pose a serious threat to global health. Self-efficacy plays a significant role in managing NCDs. This study aimed to compare the levels of self-efficacy between men and women with NCDs in Lilongwe, Malawi. A cross-sectional survey was conducted among 60 participants in Lilongwe. The General Self-Efficacy Scale (GSES) was used to ascertain self-efficacy. Results showed striking differences in self-efficacy levels between males and females, with women scoring higher. Regression analysis revealed that gender, age, and educational level predicted self-efficacy. These findings highlight the importance of addressing gender disparities in self-efficacy to improve NCD management.

Key Words: Self-efficacy, Gender differences, Non Communicable Diseases (NCDs), Disease Management

INTRODUCTION

Non-Communicable Diseases (NCDs) have become a major global health concern, accounting almost three-quarters of deaths worldwide (WHO, 2018). Effective management of NCDs requires a comprehensive approach, incorporating psychological, behavioural, and medical interventions. Self-efficacy refers to the self-belief in one's ability to manage health (Bandura, 1997) and it plays a critical role in Non-Communicable Disease management. People with high self-efficacy are more likely to adhere to treatment plans, engage in healthy behaviours (e.g., regular exercise, balanced diet); manage stress and emotions effectively and monitor and manage symptoms.

Problem Statement

Despite the growing body of research on self-efficacy, there remains a significant gap in understanding how gender difference influence self-efficacy levels among individuals with NCDs. Existing studies often generalize findings across populations without accounting for the nuanced psychological and sociocultural factors that may affect males and females differently. This lack of gender-specific insight limits the development of tailored interventions that could enhance disease management outcomes.

Objectives

Research demonstrates significant gender differences in self-efficacy (Pajares, 1996). These differences stem from various factors. Despite the significance of self-efficacy in NCD management, limited research has investigated gender differences in this context. The current research aims to address this knowledge gap by:

Investigating gender difference in self-efficacy among people with NCDs

Examining the relationship between self-efficacy and NCD management outcomes

Identifying potential predictors of self-efficacy differences

This research's findings contribute to the development of targeted interventions, enhancing self-efficacy and improving Non-Communicable Disease management outcomes among different genders.

Research Questions

Do significant gender differences exist in self-efficacy among people with NCDs?

What is the relationship between self-efficacy and Non-Communicable Disease management outcomes?

What factors predict self-efficacy differences among people with NCDs?

This research's findings contribute to the development of targeted interventions, enhancing self-efficacy and improving non-communicable disease management outcomes among different genders.

REVIEW OF RELATED LITERATURE

Self-efficacy (an individual's belief in their ability to succeed in specific situations), plays a pivotal role in health behaviors, including the management of chronic conditions such as diabetes, cardiovascular diseases, eczema, and cancer. The difference in self-efficacy between genders are documented across various domains, including academic performance and career aspirations, but these differences are not extended into health-related behaviours and outcomes.

Currently, the understanding of the body-mind-behavior relation considerably changes medical system and practice. This change, from biomedical to bio-psycho-social medicine, indicates present holistic model of health provision. Grossly, bio-psycho-social model reflects the optimism that biological, psychological, and social characteristics interact in a free-spirited way to maintain health or illness (Newman et al., 2019). This perspective is universal, and endorsed and validated by the World Health Organization (Fuchs et al., 2020).

Because behaviour plays an essential role in physical health, behavioural health is becoming the bedrock of bio-psycho-social practice. Dobson (2021), expressed the way behaviour positively or negatively alters the body by affirming that life-events, lifestyles, and bad behaviour are squarely related to health and illness; the way one thinks about events influences the response in developing healthy or unhealthy behaviours and changes in behaviour. Attitudes to health and a person's personality predispose the body to certain dysfunctions (Wells, 2014).

Psychology as the field of mental processes and behaviour underscores training and knowledge regarding such facets as development over lifespan, learning, experiences, cognition, emotions, social behaviour, motivations, attitudes and personality. Additionally, it endeavours to understand how biological, behavioural, and social elements influence health and illness. Therefore, psychology as behavioural health discipline plays a vital role in understanding how biological, behavioural, and social characteristics impact health and illness. The discipline equips individuals with expertise and knowledge to understand how fundamental behavioural and cognitive processes (i.e., emotion, cognition, development, and personality, and motivation, social and cultural interaction) prepare the body to develop dysfunctions. It trains to perceive how behavioural and cognitive functions are modified, the characteristics that contribute alteration, and how dysfunctions are diagnosed and treated. Furthermore, it endows skills to use in several psychological, psycho-diagnostics and psycho-therapeutic procedures which help and affect the abilities to function in diverse settings and roles. Additionally, it helps to modify behaviour and lifestyle so as to prevent and recover from health problems.

As a result, demand for psychological skills in medical settings is significantly increasing and psychology is one of the most important disciplines in health care systems (Parsons et al., 2016). The discipline is making remarkable footsteps in developing applications relevant to health. In spite of that, refinements are still needed to integrate psychology into the health foundation and substructure. The provocation for health is to acknowledge

psychology's exceptional contributions to stratagem and implementation, especially to debarring of disease and injury.

The topic of self-efficacy and gender difference is a significant area of research in education, health, community development, and psychology particularly concerning how these differences impact various outcomes, including academic performance and health behaviours. This review synthesizes the existing literature on self-efficacy, focusing on gender difference and implications. Self-efficacy, (capability to execute behaviours necessary to produce specific performance attainments) plays a crucial role in health behaviour change and management of NCDs. Studies indicate that self-efficacy significantly differ between genders, influencing how males and females manage health, adhere to treatment regimens, and respond to health challenges. Self-efficacy refers to ability to succeed in specific situations or accomplish a task (Bandura, 1977). This belief influences motivation, behaviour, and emotional responses, making it a critical factor in various domains, including education and health. Key component of self-efficacy is mastery experience.

Mastery experiences play a crucial role in shaping self-efficacy, as they provide opportunities for success and failure. According to Bandura (1997), "mastery experiences are the most influential source of efficacy information and provide direct evidence of capability." Successful experiences enhance self-efficacy, and demonstrate the skills and abilities necessary to accomplish tasks (Schunk, 1995). On the other hand, failures undermine self-efficacy, leading to decreased confidence and motivation (Ames, 1992). Be that as it may, it's essential to note that failures serve as valuable learning experiences, providing opportunities to learn from mistakes and develop self-efficacy (Dweck, 2000).

METHODOLOGY

This study employed a cross-sectional design, surveying patients (n = 60). Measures included:

Demographic questionnaire

General Self-Efficacy Scale (GSES)

NCD management outcomes (e.g., blood pressure control, medication adherence)

This cross-sectional study (Crowther & Lancaster, 2012) recruited 60 patients with Non-Communicable Diseases from Kamuzu Central hospital in Lilongwe City in Malawi. Lilongwe is the Capital City and hubs both the south and the northern regions. With urbanization, chances are that the participants originate from all the three regions of Malawi thereby giving a rich picture of the study. Inclusion criteria: aged 18-75, professional experience on diagnosing NCD (diabetes, hypertension, or cardiovascular disease). Exclusion criteria: severe cognitive impairment and inability to provide informed consent.

Data Analysis

Descriptive statistics and independent t-tests compared self-efficacy records between males and females. Regression analysis examined predictors of self-efficacy. Descriptive statistics provided an overview of the demographic characteristics and self-efficacy scores of the participants. Independent t-tests compared self-efficacy scores between men and women.

RESULTS

Demographics

Variable	females (n=30)	Males (n=30)	p-value
Age (mean ± SD)	55.4 ± 10.2	53.2 ± 9.5	0.23
Education (%)			
Primary	20	25	0.43
Secondary	40	35	
Tertiary	40	40	

Age

Women: 55.4 ± 10.2 years

Men: 53.2 ± 9.5 years

p-value: 0.23

The age difference between the genders is not statistically significant (p-value = 0.23). This suggests that the age distribution is similar between the two groups.

Education

Primary education

Women: 20%

Men: 25%

p-value: 0.43

Secondary education

Women: 40%

Men: 35%

p-value: Not reported (likely due to multiple comparison corrections)

Tertiary education

Women: 40%

Men: 40%

p-value: Not reported

The education levels between the genders are not significantly different for any of the categories (primary, secondary, and tertiary). The p-values show that the observed differences are likely due to chance.

Implications

Age: Since there's no outstanding age difference, any differences in self-efficacy records are less likely to be attributed to age.

Education: The similar education levels suggest that education is not a confounding variable in this study.

Self-Efficacy Records

|| Females (n=30) | Males (n=30) | p-value || --- | --- | --- | --- || GSES (mean $\pm$ SD) | 32.1 ± 4.5 | 29.4 ± 4.8 | <0.001 |

GSES (General Self-Efficacy Scale) Scores

Females: 32.1 ± 4.5

Males: 29.4 ± 4.8

p-value: <0.001

Key Findings

Significant Gender Difference: The p-value (<0.001) shows a statistically significant difference in self-efficacy records between the genders.

Higher Self-Efficacy in women: females recorded higher on the GSES (32.1) compared to males (29.4).

Moderate Effect Size: The difference in self-efficacy records corresponds to a moderate effect size (Cohen's $d \approx 0.6$).

Implications of the findings

Gender Disparity: The remarkable difference in self-efficacy scores suggests a gender disparity, with women exhibiting higher self-efficacy.

Potential Consequences: Lower self-efficacy in males may impact ability to manage Non-Communicable Diseases (NCDs) effectively.

Targeted Interventions: These discoveries highlight the need for tailored interventions to enhance self-efficacy among genders.

Explanations of the Implications

Sociocultural Factors: Gender roles, social norms, and expectations influence self-efficacy perceptions.

Psychological Factors: Differences in depression anxiety, or coping mechanisms contribute to self-efficacy disparities.

Environmental Factors: Social support and health care vary between genders.

Regression Analysis

| Predictor | β | p-value || --- | --- | --- || Gender (female) | 0.23 | <0.01 || Age | -0.19 | <0.05 |

| Education (tertiary) | 0.21 | <0.01 |

Regression Equation

Self-efficacy = $\beta_0 + \beta_1(\text{Gender}) + \beta_2(\text{Age}) + \beta_3(\text{Education})$

Results

| Predictor | β (Beta Coefficient) | p-value || --- | --- | --- || Gender (female) | 0.23 | <0.01 |

| Age | -0.19 | <0.05 || Education (tertiary) | 0.21 | <0.01 |

Interpretation

Gender (female): $\beta = 0.23$, $p < 0.01$

For every unit change in gender (from female to male), self-efficacy increases by 0.23 units.

Women have significantly higher self-efficacy scores than men.

Age: $\beta = -0.19$, $p < 0.05$

For every year increase in age, self-efficacy decreases by 0.19 units.

Older people tend to have lower self-efficacy scores.

Education (tertiary): $\beta = 0.21, p < 0.01$

Having a tertiary education is associated with a 0.21-unit increase in self-efficacy.

Individuals with higher education levels tend to have higher self-efficacy scores.

Key Findings

Gender is a remarkable predictor of self-efficacy, with women exhibiting higher scores.

Age has a negative relationship with self-efficacy, indicating older individuals require additional support.

Tertiary education is positively linked with self-efficacy, highlighting the importance of education in enhancing self-efficacy.

Independent T-Tests

Independent t-tests compared self-efficacy scores between men and women.

Variable	t-value	p-value	Self-Efficacy
	3.21	<0.001	

Results shows significant difference in self-efficacy scores between women (M = 32.1, SD = 4.5) and men (M = 29.4, SD = 4.0, with females exhibiting higher self-efficacy.

Model Summary

Model	R	R ²	F	p-value
	1	0.43	0.19	10.21

Co-efficient

Predictor	β	p-value
Gender (female)	0.23	<0.01
Age	-0.19	<0.05

Education (tertiary)	0.21	<0.01
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DISCUSSION

The current research findings align with previous study indicating significant gender differences in self-efficacy levels, with women consistently scoring higher (Mueller & Conway Dato-on 2013; Wood & Charbonneau, 2018). This disparity stems from various factors: sociocultural influences. It is important to note that traditional gender roles and expectations contribute to differences in self-efficacy perceptions. The important fact is that of socialization. In most areas, women receive more encouragement and reinforcement for self-efficacy development. It is not the same with men hence the portrayed results. Psychological factors are also significant in many facets of life including disease management. Differences in depression, anxiety, and coping mechanisms influence self-efficacy.

The observed gender differences in self-efficacy has important implications. Targeted interventions are key to this concept. There is a pressing need and is urgent to design programs that addresses the unique needs of each gender to in order to enhance self-efficacy. Education and training play a pivotal role in boosting self-efficacy. For this reason, stakeholders need to wake up and collaborate with all relevant partners more especially with the education sector to emphasize self-efficacy development in educational settings and curricular. Ultimately, the health sector is key to the realization of all efforts aimed at boosting self-efficacy among all genders. Health care policy need to inform the same. A well thoughtful consideration of the impact of gender on self-efficacy when developing health care policies is critical.

A number theories explain the observed gender differences in this study. The first is what is known as Social Learning Theory (SLT) (Bandura, 1977). According to this theory woman has more opportunities for

observation, imitation, and reinforcement. Another important theory is Self-Efficacy Theory (SET) (Bandura, 1997). It is obvious that gender disparities in self-efficacy stem from variations in cognitive processing and motivational factors. Eagly (1987), developed another equally important theory that informed this study. This theory known as Gender Role Theory assumes that traditional gender roles influence self-efficacy perceptions.

Findings showed that:

Gender (female) was a significant predictor of self-efficacy ($\beta = 0.23$, $p < 0.01$).

Age was negatively associated with self-efficacy ($\beta = -0.19$, $p < 0.05$).

Tertiary education was positively linked with self-efficacy ($\beta = 0.21$, $p < 0.01$).

Practical Implications of the Findings

Health care professionals

The findings of this study calls upon the health care professionals to consider gender disparities in self-efficacy when developing treatment plans. Very rarely do health professionals consider the gender of the clients when they visit the hospitals. The lenses put on is that of all are patients. This study has unearthed a critical aspect of the patients and that is the gender aspect itself. This aspect as shown in this study, has so many probabilities of hindering the treatment process and adherence. For this reason, deliberate steps by professionals need to be taken into consideration to enhance treatment and care.

Educators

Design curricular promoting self-efficacy development for both genders. Educators play a significant role in promoting self-efficacy development, particularly in addressing gender differences. Educators shape attitudes, beliefs, and behaviours. For this reason, the education system need to incorporate self-efficacy-enhancing learning objectives into curricula. Self-efficacy principles have to deliberately be incorporate into lesson plans. The focus should be on skill-building.

Policy makers

Addressing gender disparities in self-efficacy requires a multifaceted approach, involving policy makers, health care professionals, educators, and community leaders. The policy makers' role includes: develop and implement policies promoting gender perspective; allocate resources for self-efficacy-enhancing initiatives and monitor and evaluate program effectiveness. Self-efficacy need to be incorporated into national health agenda.

CONCLUSION

Addressing gender differences in self-efficacy is critical for effective Non-Communicable Disease (NCD) management. Health care providers need to consider tailored interventions to enhance self-efficacy among patients with NCDs. Significant gender disparities in self-efficacy exist, with men exhibiting lower levels. Self-efficacy is a crucial predictor of health outcomes and disease management. Effective NCD management requires addressing these differences. Programs need to be designed that address unique needs of each gender with NCDs. This on the other hand, requires enhanced health care provider training: providers need to be educated on gender-sensitive care. The other important fact is that of policy reforms. Policies must incorporate gender considerations into health care delivery. Addressing gender differences in self-efficacy is essential for effective NCD management. By implementing tailored interventions and considering gender-sensitive care, health care providers have the capacity to enhance self-efficacy across genders with NCDs, ultimately improving health outcomes and reducing health care costs.

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