An Integrated Model Approach and Understanding the Determinants Factors for Chronic Disease Management Behaviors among Low-Income Workers

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Abstract

A public health problem is chronic illness. Although it is one of the biggest issues facing the community and poses substantial dangers to death, disability, and quality of life, low-income people, especially low-income employees, have limited understanding of the issue. In order to lower the prevalence of chronic disease and improve quality of life and wellbeing, it is essential to identify the characteristics that are associated with behaviors for managing it. An organisation must be committed and ready for change if it wants to improve the care it provides for people with chronic illnesses. With this study, we hope to better understand how this vulnerable group manages chronic illnesses. In order to uncover the elements impacting the chronic illness management behaviors of low-income workers, an integrated model is needed, which is what this research illuminates through an assessment of the literature's shortcomings. The Socio Ecological Model and Theory of Reasoned Action (TRA) were integrated to help understand how low-income employees manage their chronic illnesses. As a result, this research offers crucial information on the factors that influence how low-income employees manage their chronic illnesses, and it also proposes an integrated model with the goal of generating testable hypotheses that would support empirical findings.

Keywords: Low-Income Workers, Risk Factors, Integration Model, Chronic Disease Management Behavior.

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Introduction

The public's health is acknowledged to be seriously threatened by chronic illness. It has been reported to be dangerous to humans because it is difficult to manage, difficult to treat, can interfere with daily life, and is linked to a number of complications, including obesity, cardiovascular disease, hypertension, chronic obstructive pulmonary disease, kidney disease, cancer, and liver disease (McDonald, 2003; UK Department of Health, 2004; World Health Organization (WHO), 2008; Larsen, 2009; M. Pohlit et al., 2018). Chronic disease is affected in communities by a number of variables, such as unhealthy lifestyle choices, genetic factors, economic, social, gender, background, and environmental conditions (Negin et al., 2011; Promthet et al., 2011; Silva-Matos & Beran, 2012; Diem et al., 2015; Kassa & Grace, 2018; WHO, 2017; Ustün et al., 2019). Chronic illness instances are on the rise, which is concerning because it affects low-income groups more than the general public. This is so because households with low incomes are more at risk for developing chronic illnesses.

Recently, the focus has switched to a certain group, in particular low-wage employees. Workers with low incomes are seen to play a significant role in helping service organizations achieve their goals by offering the general public high-quality services. In contrast to those higher income groups, they have seen greater susceptibility to chronic illness. The majority of research, it was noted, claimed that workers were exposed to physical and psychological risks at work due to demanding jobs, workplace discrimination, and dangerous materials (Baron et al. 2014; Meyer, 2014). Literature also emphasizes the issues of social protection, healthcare access, and availability to wholesome nutrition (Wilkinson & McDougall, 2007; Rockefeller Institute, 2013; Stringhini et al., 2017). Other research showed that eating habits, particularly for those in the low- to middle-income category, were influenced by work, and that this had an effect on health issues (Blake, Wethington, Farrell, Bisogni & Devine, 2011). Additionally, they frequently put in extra hours to enhance their income, which limits the amount of time they have for physical activity (Kataria et al., 2020). Gawde et al. (2016) found that those with lower socioeconomic position are more susceptible to illnesses and frequently lack the resources to deal with their effects. As a result, low-income individuals frequently have NCD because of a lack of information, resources, psychological stress, high-risk behaviors, unhygienic living circumstances, restricted access to healthcare, and a poor likelihood of preventing disease complications. As a result, they are at a greater risk of illness, injury, and poverty (WHO, 2005a).

They are seen to have greater understanding of health issues and to find it simpler to obtain information about them as compared to high-income and educated people (Cowell, 2006; Gilman et al., 2008). Additionally, they are more health-conscious and are better at handling stress (Slopen et al., 2013; Liu, Liu, Li & Chen, 2015). A person may really choose a healthier lifestyle and exhibit more self-control if they have a high degree of education (Ross & Wu, 1995). For example, those with higher education levels typically lead healthier lifestyles, eating a lot of fruits and vegetables, consuming less fat, and engaging in physical activity (Martin, Nieto, Ruiz & Jimenez, 2008). On the other hand, professionals often exhibit more understanding of and familiarity with a healthy lifestyle (Kit, Abu Saad, Jamaluddin & Phing, 2020). They frequently come with the pressure to maintain good health and

appearance (Biernat & Tomaszewski,2015). It is consistent with McLaren's (2007) assertion that people are more inclined to retain their physical appearance, particularly those who typically hold higher positions in the organizational hierarchy. Contrarily, those with poor levels of education, who are shown to be less likely to be given the chance to learn, limited knowledge, and low awareness of the consequences of unhealthy behavior, are more likely to engage in unhealthy behaviors that increase their risk of developing chronic illnesses (Pampel, Krueger & Denney, 2010). For the reason, identifications of factors that are correlated with chronic disease management behaviors is necessary as the strategies to reduce the prevalence of chronic disease and increase the quality of life and well-being. Hence, focus on the health of low-income workers should be given priority to ensure the continued development of a country and well-being of the people. Moreover, they are the energy source to achieve the national development and economic agenda performance (Bakar et al., 2020). Therefore, there is a need to impart chronic disease management behavior to this high risk groups as outlined in the Five Sustainable Development Goals (SDGs) which set targets related to reducing health inequality nationally and globally.

Literature Review
A summary of the risk factors for chronic illness among low-income employees in Gujarat India

Nearly everywhere in the globe, including India, the trend toward chronic illness is recognized to be rising year-round. It spread around the world regardless of socioeconomic and demographic position, with a rising trend in low- and middle-income nations (Jain, Gupta, Gupta, Jain & Jain, 2018). The benefits of a healthy lifestyle are frequently disregarded in daily life, whether by people, communities, or professionals. Despite the fact that people are typically healthy, employment has been linked to chronic illnesses and health issues (Li & Sung 1999). In actuality, they are more susceptible to the danger of health issues and diseases because of impacts from others, including friends, culture, and environment. According to Ahmad, Abu, and Hamzah (2013), a person's behavior is frequently impacted by many outside factors or interactions with others, including their family, local community, culture, and physical surroundings. Similar factors that contribute to chronic disease include unhealthy lifestyle choices, genetics (heredity), societal and economic circumstances, gender, background, and environmental conditions (Negin et al., 2011; Promthet et al., 2011; Silva-Matos et al., 2012; Diem, Brownson, Grabauskas, Shatchkute, & Stachenko, 2015; WHO, 2017; Kassa & Grace, 2018; Ustün et al 2019). Low-income employees in India are more likely to develop chronic conditions like cancer, diabetes, coronary heart disease, and kidney disease, according to research (Khalid, Rani, Lian, Kong & Razak, 1990; Lua, Moy &Atiya, 2004; Fiidow, Huda & Salmiah, 2016; Eng, Moy & Bulgiba, 2016; Su, Azzani, Tan, Loh, 2018). Additionally, a different study by Chee, Hazizi, Barakatun Nisak, and Mohd Nasir (2014) revealed that implementer group members are more likely to have high blood pressure (44.7%) and abdominal obesity (77.8%) than professional and management group members. The results are consistent with a research by Rampal et al. (2012) that found staff members in non-academic positions were more likely to be obese than those in academic positions. Shiftwork was strongly linked to having a high body mass index, according to another study done by Lim et al. in 2003 among female industrial employees (BMI). Similar to this, Chee et

al. (2004) found that working shifts, particularly night hours, expose people to obesity. For low SES army troops, inadequate nutrition awareness and daily plain water intake of less than 2 liters were substantially associated with overweight and obesity (Nik Qistina, Nor Afiah, Arshil Moideen, & Rozali, 2021).

Prior research has revealed that socioeconomic status, low income levels, education, and employment status all increase the risk of chronic diseases (Adler & Ostrove, 1999; Blane, Hart, Smith, Gillis, Hole & Hawthorne, 1996; Yusuf, Reddy, Ounpuu & Anand, 2001; Stelmach, Kaczmarczyk-Chalas, Bielecki, Stelmach & Drygas, 2003; Barbeau, Krieger & Soobader, 2004; Abegunde et al., 2007; Kim, Kawachi, Hoorn & Ezzati, 2008; Kivimaki et al., 2009; Scholes et al., 2012). Similarly, Chin et al. (2014) discovered that socioeconomic position, including income level, educational background, occupation, and social support network, are important social determinants impacting a person's health outcomes. Therefore, academics frequently note that low-income populations frequently lack access to basic community resources, such as the requirement for wholesome food and physical protection (Mujahid et al.,2008; Hutch et al., 2011; Woolf et al., 2011). According to a local empirical research by Shamsul, Jayashree, and Norhasmah (2013), low-income households choose to buy less expensive meals like rice, sugar, and green vegetables over items that are regarded as nutritious such fruits, vegetables, and milk due to the market's exorbitant costs. Likewise, according to a report from the National Health and Morbidity Survey (NHMS), the consumption of fruits and vegetables by the Bottom 40% (B40) group is insufficient, and the least active 20% of the population is the group with the greatest levels of physical inactivity (Institute of Public Health, 2015). because non-nutritious items are less expensive, people are more prone to eat them (Wang et al., 2015). Furthermore, they have been unable to engage in physical activity, go on walks, or engage in other activities due to their areas' crowded and hazardous urban settings.

According to Kim and So (2014), social and environmental restrictions made low socioeconomic groups less likely to be active than those in higher socioeconomic level. As a result, it can be inferred from the evidence that low-income workers are more likely to lead unhealthy lifestyles as a result of a variety of risk factors in their daily lives, including personal, social, living, and working conditions, as well as community and environmental factors. It is debatable whether or whether the aforementioned NCD have had a substantial influence on low-income populations' ability to manage their personal care, treatment, and health with finite resources. It also brings up other issues with family, social connections, emotions, productivity at work, and personal quality of life (Alefan et al., 2009; Muna, 2010; Santiago, Wadsworth & Stump, 2011). This necessitates an effort to discover and comprehend factors impacting behaviors to manage chronic illness among low-income individuals.

Chronic Disease Management Behaviors
The significance of managing chronic diseases has long been understood. In conjunction with their family, community, and medical experts, it refers to a person's capacity to manage their own condition and way of life (Wilkinson & Whitehead, 2009).

Condition management, often known as self-management or self-care, refers to the wide variety of actions people take to improve their physical, social, or emotional well-being and stop their health from further deteriorating as a result of their disease (Pincus, Esther, DeWalt & Callaghan, 1998). Stewart, Brown, Donner, McWhinney, Oates, and Weston (2000) explain that disease management entails collaborative management between patients and physicians in order to identify problems, set goals, incorporate self-management strategies, and monitor progress over time. This leads to higher levels of trust and satisfaction, reduces emotional load, and ensures better biomedical levels such as blood pressure, blood sugar control, and others. In accordance with that, self-management plays a crucial role in how people manage their conditions, including making choices, adopting, and adapting strategies to better their health status in relation to specific conditions that involve receiving support from others, including family, friends, healthcare professionals, and the community (Lorig & Holman, 2003). As a result, it was acknowledged as a crucial issue given the workforce's age demographic, the incidence of chronic illnesses, and the need of preserving a competitive and productive workforce. Low-wage employees, particularly those employed in the public sector, are a valuable resource for Gujarat's economy and productivity by assisting management or authorities in maintaining and enhancing service quality. There is emerging evidence that an integrated strategy, through physical, social, organizational, and psychological systems, operates as a chronic illness preventer and as a major predictor of individual health behaviors (Sorensen et al., 2011). In order to maintain work performance, productivity, and health as well as to enhance quality of life and lengthen life expectancy, a focus on chronic illness management is crucial. A growing body of research has linked the management of chronic diseases to improved health outcomes, lower rates of morbidity and mortality, higher life satisfaction, self-confidence, and longer life expectancy (Kaplan & Toshima, 1990; Uchino et al., 1996; Mulyati, Yetti & Sukmarini, 2003; Hu et al., 2011; Reddy et al., 2012; Viswanathan et al.,2012). Therefore, disease management is essential for the proactive treatment of chronic illnesses and disease-related consequences (Sherbourne et al., 1992; Gochman, 1997; Glasgow & Eakin, 1998).

Theorizing Chronic Disease Management Behaviors
Theory of Reasoned Action

In this review, we present theories to elucidate the behaviors involved in the treatment of chronic diseases. The theory of reasoned action (TRA), created by Ajzen and Fishbein, was one of the foundational and basic theories to anticipate behavior (1975). According to this theory, attitudes, subjective norms, intents, and conduct interact to produce human assumptions or considerations that lead to reasonable and methodical decisions to carry out a behavior or action (Refer Figure 1). According to this theory, the two components that influence behavioral intentions, such as attitudes toward conduct and subjective norms, make up the determinants of human behavior (Ajzen & Fishbein, 1980).

This theory holds that subjective norms (normative support or social pressure) and attitudes (positive and negative individual assessments of a behavior) have a significant impact on what motivates a person to act in a certain way. This argument has also been backed by a number of prior empirical research on eating habits, weight reduction, alcohol

and drug addiction, condom use, and HIV (Taylor, Bury, Campling, Carter, Garfied, Newbould & Rennie, 2007). In light of the foregoing, it may be said that this theory defines how people behave by identifying, quantifying, and integrating the ideas that are held by certain people or groups and that cause people to act in particular ways.
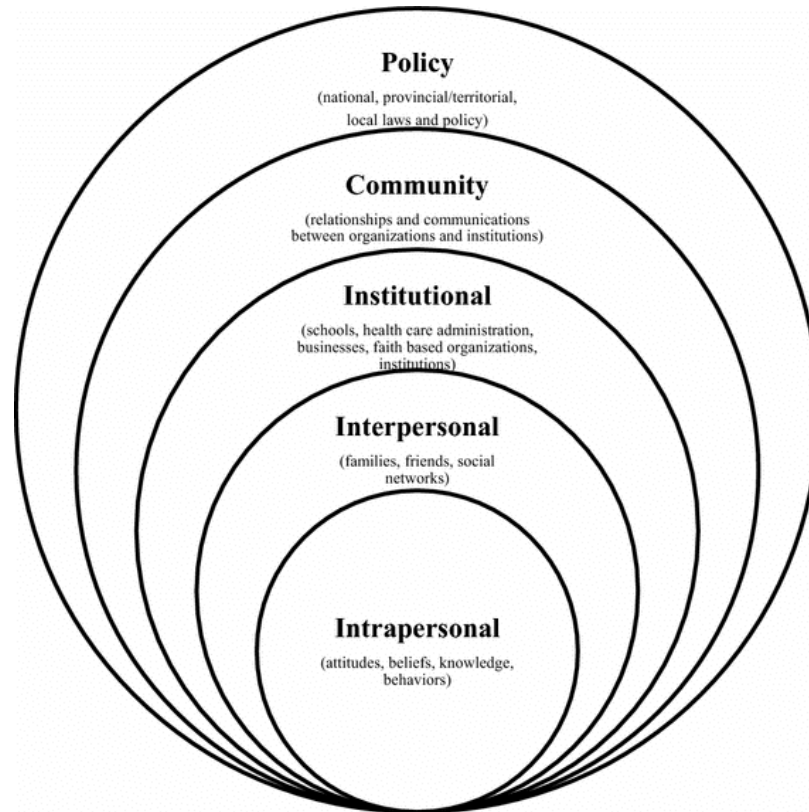

Figure 1: Theory of Reasoned Action diagram
(Adapted from Ajzen & Fishbein (1985))

Socioecological Model

To provide relevant, multifactorial accounts, distinct health behaviors are frequently integrated with other disease-related factors in modern research (Abraham et al. 2000). According to this theory, settings have an impact on how people behave in terms of their health. It is important to comprehend their social and ecological context, which includes neighborhood variables such as beliefs, customs, norms, and economic resources, as well as macro-level aspects such as political stability and economic power (Blum et al., 2012). Similar to this, Gehlert et al. (2008) said that organizational, social, and governmental issues are health external factors for a person's influence over health behaviors. The social, physical, and cultural environments, among other things, have cumulative impacts on health, according to Stokols (1992, 1996). While Noar, Chabot, and Zimmerman (2008) argued that in order to develop a theory that can account for a wide range of human health behaviors, the identification of variables impacting various health behaviors is important. Similar to this, Krishnan et al. (2015) claimed that behavioral, social, and cultural variables have an impact on the prevention of non-communicable diseases. Keep in mind that the social, cultural, and

environmental context in which the behaviors occur is crucial (Kumanyika & Morrissink, 2006). These findings demonstrate the importance of individual, societal, cultural, and political dynamics as factors affecting health status. In order to take into account all health behavioral elements encompassing individual, social, cultural, and environmental or socio-ecological views of human behavior, a theoretical and model-focused approach is needed.
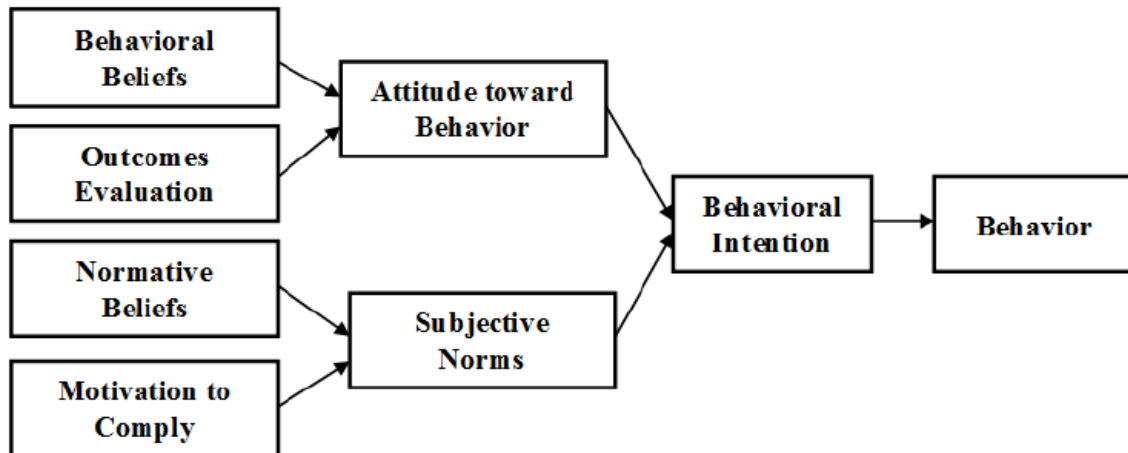

Figure 2: Socioecological model of health behaviors
(Adapted from Kenneth McLeroy et al. (1988))

Thus, the socioecological model is useful for comprehending the complex interactions between environmental and human elements that influence behavior and for directing health behavior treatments (Story et al., 2008). The research as a whole has revealed that this model as a thorough and integrated method for comprehending and lowering illness risks, particularly among neglected and vulnerable population groups (Gregson, 2001: Oetzel, Ting-Toomey & Rinderle, 2006). Baron et al (2014) .'s explanation that the socioecological model is suited for giving people a better awareness of the factors that might affect health outcomes and reduce health inequities, particularly for low-income workers, supports this claim. The model proposed by McLeroy et al. (1988) emphasizes the multiple levels of intrapersonal (knowledge, attitude, personality, beliefs, and skills), interpersonal (family, friends, and health team), organizational (workplace), community (neighborhood, local community, and community organization), and societal (policy and mass media) factors. Figure 2 illustrates these multiple levels. It has been utilized in previous studies to look into physical activity (Sallis Cervero, Ascher, Henderson, Kraft & Kerr, 2006). Additionally, the socioecological model was applied to research the self-management practices for chronic diseases (Mahadevan, 2016). However, little is known about how low-income employees may treat chronic diseases in a realistic way, therefore the problem persists. In order to comprehend how individual, societal, community, institutional/organizational, and policy variables influence chronic illness management behaviors, this model is developed.

Conclusion

The most downstream determinants that directly affect an individual's health are behaviors. The relationship between attitudes and actions in human behaviour. It is mostly

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used to make behavioural predictions about people based on their current attitudes and behavioural intentions. An individual anticipates will occur from engaging in a certain conduct are what drive their decision to do so. The occupational and social ecology approaches to improving the health of low-wage and minority employees, and evaluates recent studies on work-related health concerns. The social ecology model, interactions between a person, a group, a community, as well as the physical, social, and political contexts have an impact on one's health. It is identified that the variables that influence behaviors related to the treatment of chronic illnesses. Additionally, it is advised and emphasizes the necessity of a comprehensive model that incorporates the socioecological model and theory of reasoned action.

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