

HEALTH LIFESTYLE DIMENSIONS AS CORRELATES OF ILLNESS BEHAVIOUR AMONG UNIVERSITY EMPLOYEES: IMPLICATIONS FOR OCCUPATIONAL SAFETY

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Abstract

This study examined health lifestyle dimensions as correlates of illness behaviour among employees of Nnamdi Azikiwe University, Awka, Anambra state, Nigeria. Fifty one (51) non-teaching staff participated in the study. Total population sampling technique was adopted to select participants for the study. The participants' ages ranged from 31 to 53 years, with a mean age of 38.56 and a standard deviation of 5.97. Two instruments were used to gather data for study, namely: 25-item Fantastic lifestyle questionnaire and 62-item Illness behaviour questionnaire. Pearson's product moment correlation was employed as the statistical tool to test the data. Results revealed that physical activity significantly and negatively correlated with illness behaviour among employees of Nnamdi Azikiwe University, Awka, Anambra state, Nigeria. Also, the results showed that career significantly and positively correlated with illness behaviour among employees of Nnamdi Azikiwe University, Awka, Anambra state, Nigeria. The implications of the study were discussed and recommendations were made.

Keywords: Health, Illness behaviour, Lifestyle, Occupational Safety

Introduction

For optimal performance of any given employee, the expectation, at least, is that the working environment should be safe, such that it will be devoid of predisposing to health risks which may in turn lead to occupational hazard. University employees are a group of workers who appear to be in charge of grooming future leaders of different works of life. Their job description, among others, included dealing with sensitive issues such as supervising examinations, and computation of results. Where this is not appropriately carried out, it may portend a bleak future for us as a country. Take for example, in a situation that a university employee who is in charge of result computation, for one reason or the other, 'upgrades' the result of a medical student who supposed to have failed, and the student eventually graduates with a result short of what he or she can defend, the consequences of this, all things being equal, when such a student will engage in practice as a medical doctor can be dire. Therefore, it is of interest to this study to examine some of the possible factors that tend to militate against

occupational safety (the effects of the working environment on the health and wellbeing of the worker as well as the influence of a worker's state of health (physical and mental) on their ability to perform the tasks for which they are employed) of university employees by finding out if health lifestyle dimensions correlate with illness behaviour among them.

Young (2004) observed that life is seen as a natural, sometimes nonlinear, progression of health to illness to death, punctuated by episodes of illness and a return to health. Generally, the assumption is that each stage of the progression, whether healthy or ill, will have an associated impact on the job a given employee does. Illness behaviour has been approached from different perspectives, which included biophysiological approach and socio-cultural approach, among others. Accordingly, Twaddle's (1969) observation that physicians view of illness as a disease, a biological process that can be categorized and treated, ignores both the social aspects of illness and the distinctions between illness and sickness. Thus, this scholar suggested that illness is a socio-cultural event and sickness is a socio-biological event. While the social aspects of illness may include how it affects the occupational safety of university employees, Cockerham (2012) noted that illness is a subjective state, pertaining to an individual's psychological awareness of having a disease and usually causing that person to modify his or her behaviour.

Sequel to this, Mechanic (1995), in defining illness behaviour from socio-cultural perspective, was of the view that it is the varying ways individuals respond to bodily indications, how they monitor internal states, define and interpret symptoms, make attributions, take remedial actions, and utilize various sources of formal and informal care. Young, (2004) observed that illness behaviour has been modified and broadened over the years to include economic, cultural, psycho-social, structural, demographic, geographic and organizational factors that influence the reaction of the individual to illness, both chronic and acute. As such, if one is to look at it, it appears that university employees' social group, institutional, economic and social actions and structures stand the chance of influencing illness behaviour among them.

By appearing to be culturally constructed, illness behaviour can be viewed in differing lights depending upon the culture involved. Thus, scholars (e.g. Young, 2004) noted that it is the society, not the individual that labels illness behaviour either positively or negatively based on existing social and cultural mores. Thus, Becker (1974) had stated that what one social group or subgroup labels as deviant will be normal behaviour to another. Consequently, while Freidson (1970a) noted that illegitimacy is relative to the society in which the behaviour of the patient is embedded, Cockerham (2000) stated that the strategic viewpoint of the patient in illness can vary from co-operation to hostility to taking pleasure in the secondary gains of the sick role.

The expectation is that somebody who is ill should express conscious motivation to recover from illness, however, some employees might entertain the unconscious motivation to receive 'secondary gains' by a lack of recovery and continued exemption from the rigours of everyday life, which may include avoiding work. Thus, such attitude may engender work-group conflict, employee sabotage behaviour, counterproductive work behaviour, and workplace incivility, among others. Thus, none of these promote occupational safety among university employees.

One factor likely to determine the illness behaviour of an individual is his or her social network. McKinlay (1981) had noted that social networks provide an important link between the 'pre-patient' world and the professional world in terms of efficacy, access and satisfaction

with care. Thus, via such social networks, a given individual stand to be influenced to adopt either healthy lifestyle or unhealthy lifestyle. Cockerham (2000) defines social networks as social relationships a person has during day-to-day interaction that serve as the normal avenue for the exchange of opinion, information, and affection. Instances of social networks include family, friends and co-workers, which is the local social world of an individual.

Some decades ago, the effects of social networks on illness behaviour have been noted. For example, while Suchman (1965b) was of the opinion that parties close to the potential patient channel behaviour and may actually impede access to care, Freidson (1960) suggested the strong influence of lay referral systems on the access of patients to health care systems. According to Berkman and Syme (1979), connectedness to social networks can increase the presence and efficacy of healthy lifestyles and the use of preventive health services. It has been observed that mechanisms by which social networks affect care include, among others, reinforcement of healthy and unhealthy behaviours (or lifestyles) by activities, verbal stimuli and examples (Thoits 1982, Dean 1989). Thus, social networks provide a nested middle influence between the individual and health systems that focuses on illness behaviour.

In line with this, it is critical to understand illness behavior among university employees so as to maximize their health, motivate them towards optimal job performance, and be well prepared to manage any challenges (e.g. sabotaging behaviour, absenteeism, workplace incivility, and work-group conflict, etc), among others, that may ensue from it. In other to have this understanding, attempt should be made to first understand the health lifestyles of university employees. Such health lifestyles may have resulted from the impacts of their social networks' influence. A United State (U.S.) Surgeon General's Report, according to Williams and Collins (1995), indicated that unhealthy behaviors or lifestyles coming from social networks account for half of the annual number of deaths in the U.S. As such, one may speculate that among university employees, unhealthy lifestyles stand the chances of impeding occupational safety, for it can predispose to behaviors capable of engendering occupational hazard, absenteeism, and decrease in work morale, among others, which may in turn breed turnover intention in some employees who cannot cope. Black and Frost's (2011) report on the United Kingdom (U.K.) workplace, highlights that 140 million working days are lost to sickness absence and 300,000 individuals leave the workplace each year due to ill health. Thus, such militates against occupational safety. One more possibility is that occupational safety can be sabotaged by having employees attend work while sick. This is referred to as 'presenteeism.' Most likely, such a sick employee will be present at work but will not do any job. Hence, illness behaviour appears to be complex and accommodates the likelihood that one's health lifestyle may either play a predisposing, maintaining, or perpetuating role that may negatively affect occupational safety.

According to Farhud (2015), lifestyle is referred to the characteristics of inhabitants of a region in special time and place that include day to day behaviour and functions of individuals in job, activities, fun, and diet. Lifestyle is characterized by identifiable behavioural pattern that can have a marked effect on an individual's health, and it is related to several aspects that reflect the attitudes, values, and opportunities in a person's life (World Health Organization (WHO), 1998). Generally, lifestyle has been noted to predispose to health problems. Variables of lifestyles that have influence on health include diet and body mass index (BMI), exercise, sleep, sexual behaviour, substance abuse, medication abuse, application of modern

technologies, and recreation (Farhud, 2015). Ziglio, Curruem, and Rasmussen (2004) noted that World Health Organization reported that 60% of related factors to individual health and quality of life are correlated to lifestyle. Nugent, (2008) argued that the rise of lifestyle-related chronic disease in poor countries is the result of a complex constellation of social, economic, and behavioral factors. Scholars (e.g. Alavinia, Molenaar, & Burdorf, 2009; Boles, Pelletier, & Lynch, 2004; Cancelliere, Cassidy, Ammendolia, & Côté, 2011) reported that lifestyle risk factors including obesity, diet, and sedentary lifestyle habits, influence workplace productivity. Besides, European Commission, (2008) have noted that there is increasing public acceptance that health and wellbeing at work can have profound impacts on individuals, organizations and societies.

Health lifestyle can be said to refer to an individual's interests, opinions, behaviours, orientations regarding those aspects of life (e.g. nutrition, alcohol use, physical exercise etc.) that significantly affect his or her health. All the efforts for accomplishing a healthy life can be considered as a healthy lifestyle (Sorour, Kamel, Abd El- Aziz, & Aboelseoud, 2014). Pender, Barkauskas, and Hayman (1992) stated that the healthy lifestyle behaviors are self-actualization, health responsibility, exercise, nutrition, interpersonal support and stress management.

On the other hand, for *Concise Dictionary of Modern Medicine*, (2002), unhealthy lifestyle refers to a dissipated personal modus operandum, which may be characterized by one or more of the following: substance abuse (e.g. alcohol, drug and/or tobacco use), debauchery, sexual promiscuity and/or teenage pregnancy, poor sleep hygiene, domestic violence and other unhealthy habits. Possibly, one may assert that whatever one avoids doing in order to accomplish a healthy life may engender unhealthy lifestyle.

Another possibility that may militate against occupational safety via illness behaviour predisposed by unhealthy lifestyle is stress at work. As such, stress at work, according to Chandola et al., (2008) may increase ill health and decrease productivity directly through biological stress pathways or indirectly through influencing individuals' health behaviour, such as alcohol consumption and smoking. Lifestyles related illness includes metabolic diseases, joint and skeletal problems, overweight, violence, diabetes, hypertension, and cardiovascular diseases, (Farhud, 2015), among others. It is in line that observation revealed a knowledge gap as it regards the relationship between health lifestyles and illness behaviour among university employees in our local environ that this study was carried out. The aim is to bridge this gap.

Statement of the problem

Studies have reported how lifestyles influence health. For example, in a study conducted by Jepsen, Dogisso, Dysvik, Adersen, and Natvig, (2014), findings showed that respondents reporting adverse lifestyle behaviours (obesity, smoking, or excessive intake of alcohol) showed an increased risk of poor self-reported health. Riise, Moen, and Nortvedt (2003) reported that cigarette smoking and alcohol consumption were related to reduce physical and mental health. Proper, Moczulski, and Querishi (2009) found that obesity is a predictor of self-rated health. Study by Pisinger, Toft, Aadahl, Glumere, and Jorgensen, (2009), that included several lifestyle factors reported a negative relationship between unhealthy lifestyle and mental and physical health. Tran, Nguyen, Char, and Nguyen (2013) found that both light and

strenuous physical activity decreased the risk of fair or poor health. Also, Samari (2013) reported that daily walking is inversely related to mortality among elderly people.

To our knowledge, local studies are yet to look at some of the factors that have implication for occupational safety among university employees from the perspective this study took. In consideration that a knowledge gap exists with regards to examining health lifestyle dimensions as correlates of illness behaviour among university employees, that this study was embarked upon.

Research questions

There are two research questions, the first is will physical activity correlate with illness behaviour among university employees? Secondly, will career correlate with illness behaviour among university employees?

Purpose of the Study

The general purpose of this study is to explore the relationship between health life dimensions and illness behaviour among university employees. The specific objectives of the study are to investigate if: (i) Physical activity will correlate with illness behaviour among university employees. (ii) Career will correlate with illness behaviour among university employees.

Operational definitions of the key variables

Illness behaviour: refers to any activity, undertaking by a person who feels ill to define the state of his health and to discover a suitable remedy as measure by Pilowsky and Spence (1983) illness behaviour questionnaire. Health lifestyle: refers to an individual state of less prone to risk of diseases and feel energetic to function as a rational being with its immediate environment as measure by Wilson and Ciliska (1984) Fantastic lifestyle questionnaire.

Review of Related Literature

Health lifestyle and Illness behaviour: Parsons (1951), as part of his explanation of social systems, offered 'sick role' approach to explain illness behaviour, and this served as one of the earliest formulations of the socio-psychology of illness behaviour.. This scholar stated that illness disrupts normal life functions and relationships. Therefore, he asserted that illness is behaviourally deviant. In line with this, Fox, (1989) acknowledged that illness is nothing short of social role or sick role that is characterized by obligations and duties of the parties to the doctor –patient relationship shaped by the society to which the parties belong. Thus, Fox (1989) had argued very strongly that illness is not a psychological condition, or a biological condition, or an unstructured event.

Accordingly, sick role is characterized by the conceptual rules that the sick person is exempted from the normal social roles that the person takes for the duration of the illness (including the services he or she ought to have been rendering as university employee); that the sick person is not responsible for his or her illnesses; that the sick person has the duty to try to get well; and that the sick person must seek competent technical help and co-operate with that caregiver (Cockerham, 2000). Cockerham, (2000) further observed that in the doctor – patient relationship, the doctor is invested with the function of social control in the sick role

system, where the doctor reinforces the societal goal of wellness, adjudge the legitimacy of illness for the patient, and provide deviance mitigation.

Young, (2004) noted that in illness behaviour, sick role concept contributes majorly to the description of a set of defined roles, norms and expectations, for the parties to the illness event that allow for resolution of the event of illness and a return to health. To this effect, Weiss and Lonquist (1997) cited in Byrd, (2013), observed that the therapeutic legitimizing function of the doctor, along with the dependent nature of the sick person's role with their obligation to get well, suited Parsons' idea that sick role is a functionally 'balanced' subsystem of a larger culturally modulated society. According to Turner (1996), the doctor's regulation of disease is a subset of the greater social function of regulating positive social hygiene, and health education on appropriate lifestyles, among others. Although sick role theory as described in Parsons (1951) has been criticized, it can be employed for understanding of the possible implications of illness behaviour on occupational safety in today's world. Using data from the 2012 National Health Interview Survey, Byrd (2013) carried out a study examining individual effects of sex, age, race, cohabitation, education and region of residence on the likelihood of chronically ill patients considering themselves limited in their amount or kind of work as an indicator of sick role adaptation. Results showed statistically significant relationships between work limitation and sex, age, cohabitation, education and region of residence, when controlling for the duration of the respondents' condition.

Method

Participants The participants for this study were 51 non-teaching staff of Nnamdi Azikiwe University, Awka (Awka Campus). Their age ranged from 31 – 53 years, with a mean age of 38.56 and a standard deviation of 5.97. Data showed that 21 (21.2%) were males and 30 (58.8%) of them were females. Data also revealed the number of participants from each of the Department as follows: 4 (7.8%) from Fine and Applied Art; 4 (7.8%) from History and International Relation; 3 (5.9%) from Philosophy; 4 (7.8%) from Educational Foundation; 4 (7.8%) from Educational Management and Policy; 4 (7.8%) from Guidance and Counseling; 3 (5.9%) from Building Technology; 3 (5.9%) from Estate Management; 3 (5.9%) from Urban and Regional Planning; 4 (7.8%) from Banking and Finance; 4 (7.8%) from Co-operative Economics; 4 (7.8%) from Public Administration; 4 (7.8%) from Mass Communication; and 3 (5.9%) from Psychology. Furthermore, data showed that while 11 (21.6%) of them came from Faculty of Art, 12 (23.5%) came from Faculty of Education, 9 (17.6%) of them came from Faculty of Environmental Sciences, 12 (23.5%) of them came from Faculty of Management Sciences, and 7 (13.7%) came from Faculty of Social Sciences. In the area of academic qualification, 22 (43.14%) had secondary school certificate examination; 13 (25.49%) had National Diplomas; 9 (17.65%) had Higher National Diplomas; 7 (13.73%) had Bachelor's degrees. In the field of job experience, 15 had 1-6 years job experience; 23 (45.09%) had 6-10; 7 (13.73%) had 11-15 years job experience; 6 (11.76%) had 16-20. Finally, data also showed that all the participants were Christians by religion and Igbo by tribe.

Instruments Two instruments were adopted in this study, namely: Fantastic Lifestyle Questionnaire developed by Wilson and Ciliska (1984) and Illness Behaviour Questionnaire developed by Pilowsky and Spence (1983).

Fantastic lifestyle questionnaire it is 25-item scale developed by Wilson and Ciliska (1984) to measure the main elements that characterize a healthy lifestyle during the preceding month. Its results allow the determination of the association between lifestyle and health. The instrument measures the following 9 domains: F – Family and Friends, A – Activity (Physical activity), N – Nutrition, T – Tobacco and Toxics, A – Alcohol Intake, S – Sleep, Seatbelts, Stress, and Safe sex, T – Type of behaviour (Type A or Type B behaviour Pattern), I – Insight, and C – Career (Work, satisfaction with profession). The questions are distributed on a Likert scale; 23 of them have multiple-choice questions (five answers) and two are dichotomous. Questions are coded by points as follows: zero for the first column, 1 for the second, 2 for the third, 3 for the fourth column, and 4 for the fifth column. For questions with not two alternative answers, the score is zero for the first column and 4 points for the last column. The sum of all points yields a total score that classifies individuals in five categories, as follows: excellent, very good, good, regular, and needing improvement. The authors reported Cronbach's reliability coefficient .88 for all categories. The researchers carried out pilot test on the all categories of the instrument and obtained Cronbach's reliability coefficient of .76.

Illness behaviour questionnaire is a 62-item instrument developed by Pilowsky and Spence (1983) to measure illness behaviour. Each item is responded to in a five-point Likert response format of 1 to 5, where 1 = Completely true, 2 = True, 3 = Not sure, 4 = Untrue, and 5 = Completely untrue. Examples of the item include: "Do you ever think that you have illness which is punishment for something you have done wrong in the past?" Do you get the feeling that people are not taking your illness seriously enough when you are sick?. It has 8 dimensions that included: (A) disease conviction, (B) irritability, (C) general hypochondriasis, (D) psychologic versus somatic perception of illness, (E) affective disturbance, (F) affective inhibition, (G) denial of problems, and (H) general illness reaction. For Nigerian sample, Adebakin (1990) reported a 30 week test-retest reliability coefficients that ranged from .87 to .67. Eriobu (1998) correlated IBQ scales with SCL-90R scales (Derogatis, Lipman and Covi, 1977) and obtained concurrent validity coefficients ranging from .21 between IBQ (D) and SCL – 90R (J. Neuroticism) to .14 between IBQ (B) and SCL-90R (G. Phobic Anxiety). The equivalent coefficients obtained by Adebakin (1990) between IBQ and STAI-Y2 by Spielberger, Gorsuch, and Lushene (1983) ranged from .27 on scale G to .39 on Scale E. To improve the reliability of the instrument, the researchers conducted a pilot test of the instrument among non-academic staff of Imo state University, Owerri, Imo state and obtained reliability coefficient ranged from .72 to .80. As such the instrument was adopted for this study.

Procedure

Only participants who met the inclusion criteria were employed. The criteria were that: (1) he/she must be a non-teaching staff of Nnamdi Azikiwe University, Awka (Awka Campus), (2) he/she must be working in the selected departments used in this study, and (3) he/she must show willingness on voluntary basis to participate in the study. Meanwhile, the participants were selected using total population sampling technique. It a type of purposive sampling technique of non-probabilistic sampling method that refers to employing all the participants of interest seen in the field of study that met the inclusion criteria and are willing to participate. Various departments and faculties of the participants were selected using simple random sampling technique of probabilistic sampling method. Accordingly, as there 9 faculties situated

in Awka Campus of NAU, simple random sampling technique was employed in this study by listing out these 9 faculties in alphabetical order and have them numbered. As such, only those of them that belonged to odd numbering were selected. In line with this, Faculties of Arts, Education, Environmental Sciences, Management Sciences, and Social Sciences were selected. Furthermore, from these five faculties selected, the departments that belonged to each of them were again listed out in alphabetical order and numbered as well. Consequently, only those of them that belonged to even numbering was selected.

Design and Statistics

This is a survey study, while correlational design was used, Pearson Product Moment Correlation Statistic was employed to test the hypotheses postulated.

Hypotheses

1. There will be negative correlation between physical activity and illness behaviour among university employees of Nnamdi Azikiwe University, Awka.
2. There will be positive relationship between career and illness behaviour among university employee of Nnamdi Azikiwe University, Awka.

Results

Table 1: shows the results of Pearson’s product moment correlation between health lifestyle dimensions and illness behaviour among University employees.

Summary Table of Correlations among Lifestyle Dimensions and Illness Behaviour

	Lifestyle Dimensions	Illness Behaviour
Physical Activity Pearson Correlation	1	-.641
Sig (2 tailed)		.026
N	51	51
Career Pearson Correlation	1	.532
Sig (2 tailed)		.041
N	51	51

p<.05

From table 1 above, the results of Pearson’s product moment correlation revealed that physical activity negatively correlated ($r = -.64$, $p > .05$) with illness behaviour among university employees. The table also showed that, career positively correlated ($r = .53$, $< .05$) with illness behaviour. There the hypotheses were confirmed.

Discussion

The study investigated the relationship between health lifestyle dimensions and illness behaviour among university employees of Nnamdi Azikiwe University, Awka. To empirically

investigate the theoretical assumption two hypotheses were formulated and tested. The findings were discussed below:

Hypothesis 1, which stated that physical activity would negatively correlated with illness behaviour among university employees was confirmed. The result agreed with Tran et al., (2013) who reported that light and strenuous physical activity decreased the risk of fair or poor health. In a situation that a university employee, for example, engages in physical activity, he or she will not become sick, which would in turn lead to occupational hazard (as a result of fatigue or lack of attention in one's job due the impact of illness). Thus, findings obtained in this study agrees with the findings of previous studies such as Jepsen et al., (2014), Riise et al., (2003), Proper et al., (2009), and Pisinger et al., (2009).

Hypothesis 2, which stated that career would positively correlated with illness behaviour was confirmed. The finding corroborated with Byrd (2013) who carried out a study to examine individual effects of sex, age, race, cohabitation, education and region of residence on the likelihood of chronically ill patients considering themselves limited in their amount or kind of work as an indicator of sick role adaptation. Byrd (2013) results showed statistically significant relationships between work limitation and sex, age, cohabitation, education and region of residence with illness behaviour. The general implication of these findings is that the significant positive relationship of career and illness behaviour may lead to work limitation and may hamper occupational safety.

Conclusion

Based on the findings obtained in this study among university employees, it showed that health lifestyle dimensions (physical activity and career) have positive and negative significant correlation with illness behaviour, and these in turn will have associated implication on the occupational safety of the participants.

References

- Adebakin, M. A. (1990). *Assessment and reduction of death anxiety among accident patients*. Unpublished MSc. Research project. Department of Psychology, University of Lagos.
- Alavinia, S. M., Molenaar, D., & Burdorf, A., (2009). Productivity loss in the workforce: associations with health, work demands, and individual characteristics. *Am. J. Ind. Med.* 52, 49–56.
- Becker, H. (1974). *Outsiders: Studies in the Sociology of Deviance (2nd Edition)*. New York: Free Press.
- Berkman, L., & Syme, S. (1979). Social networks, host resistance and mortality: a nine year followup of Alameda County residents, *American Journal of Epidemiology*, 109, 186–204.
- Black, C.D., & Frost, D. (2011). *Health at work-an independent review of sickness absence*. The Stationery Office.
- Boles, M., Pelletier, B., & Lynch, W. (2004). The relationship between health risks and work productivity. *J. Occup. Environ. Med.*, 46, 737–745.
- Byrd, A. D. (2013). *Structure matters: examining illness behavior using Parsons's Sick Role*". Masters Theses & Specialist Projects. Paper 1310. <http://digitalcommons.wku.edu/theses/1310>.

- Cancelliere, C., Cassidy, J. D., Ammendolia, C., & Côté, P., (2011). Are workplace health promotion programs effective at improving presenteeism in workers? A systematic review and best evidence synthesis of the literature. *BMC Public Health*, 11, 395.
- Chandola, T., Britton, A., Brunner, E., Hemingway, H., Malik, M., Kumari, M., Badrick, E., Kivimaki, M., & Marmot, M., (2008). Work stress and coronary heart disease: what are the mechanisms? *Eur. Heart J.* 29, 640–648.
- Cockerham, W. (2000). *Medical Sociology*. Upper Saddle River, New Jersey: Prentice-Hall.
- Cockerham, W. C. (2012). *Medical Sociology*. Boston: Prentice Hall.
- Concise Dictionary of Modern Medicine* (2002). McGraw-Hill Companies, Inc.
- Dean, K. (1989). Self-care components of lifestyles: the importance of gender, attitudes and the social situation, *Social Science and Medicine*, 29, 2, 137–52.
- Derogatis, L. R., Lipman, R. S., & Covi, L. (1977). *SCL-90R: Administration, scoring and procedures manual*. Baltimore: John Hopkins University School of Medicine, Clinical Psychometrics Research Unit.
- Eriobu, C. H. (1998). *The influence of irrational belief on illness behaviour*. Unpublished MSc. Research Project. Department of Psychology, University of Lagos.
- European Commission (2008). *Improving Quality and Productivity at Work: Community Strategy 2007–2012 on Health and Safety at Work*.
- Farhud, D. D. (2015). Impact of Lifestyle on Health. *Iranian Journal of Public Health*, 44(11), 1442-1444.
- Fox, R. (1989) *The Sociology of Medicine: a Participant Observer's View*. Englewood Cliffs, N.J.: Prentice-Hall.
- Freidson, E. (1960). Client control and medical practice, *American Journal of Sociology*, 65, 374–82.
- Freidson, E. (1970a). *Professional Dominance*. Chicago: Aldine.
- Jepsen, R., Dogisso, T. W., Dysvik, W., Adersen, J. R., & Natvig, G. K. (2014). A cross-sectional study of self-reported general health, lifestyle factors and disease: the Hordaland Health Study. *Peer J.*, 2:e609. <https://doi.org/10.7717/peerj.609>.
- McKinlay, J. (1981). Social networks influences on morbid episodes and of helpseeking. In Eisenberg, L. and Kleinman, A. (eds) *The Relevance of Social Science for Medicine*. Boston: Reidel.
- Mechanic, D. (1995). Sociological dimensions of illness behavior, *Social Science and Medicine*, 41, 9, 1207–16.
- Nugent R. (2008). Chronic diseases in developing countries; health and economic burdens. *New York Academy of Sciences*, 1136, 70-79.
- Parsons, T. (1951), *The Social System*. Free Press: New York.
- Pender, N., Barkauskas, V., & Hayman, L. (1992). Health promotion and disease prevention: Toward excellence in nursing practice and education. *Nursing Outlook*, 40: 106-12.
- Pilowsky, I. & Spence, N. D. (1983). *Manual for the illness behaviour questionnaire*. University of Adelaide Press.
- Pisinger, C., Toft, U., Aadahl, M., Glumere, C., & Jorgensen, T. (2009). The relationship between lifestyle and self-reported health in a general population: the inter99 study. *Preventive Medicine*, 49, 418-423.

- Prosper, M. H., Moczulski, V. L., & Qureshi, A. (2009). Obesity as a predictor of self-rated health. *American Journal of Health Behaviour*, 33, 319 – 329.
- Riise, T., Moen, B. E., & Nortvedt, M. W. (2003). Occupation, lifestyle factors and health – related quality of life: the Hordaland Health Study. *Journal of Occupational and Environmental Medicine*, 45, 324 – 332.
- Samari, H. M. (2013). Daily walking and life expectancy of elderly people in the Iowa 65+ rural health study. *Frontiers in Public Health*, 1, 11.
- Sorour, A. S., Kamel, W. W., Abd El- Aziz, E. M., & Aboelseoud, A. (2014). Health promoting lifestyle behaviors and related risk factors among female employees in Zagazig city. *Journal of Nursing Education and Practice*, 4(5), 42 - 51.
- Suchman, E. (1965b). Social patterns of illness and medical care, *Journal of Health and Human Behavior*, 6, 2–16.
- Thoits, P. (1982). Conceptual methodological and theoretical problems in studying social support as a buffer against life stress, *Journal of Health and Social Behavior*, 23, 145–59.
- Tran, I. V., Nguyen, D., Char, K., & Nguyen, T. N. (2013). The association of self-rated health and lifestyle behaviours among foreign-born Chinese, Korean, and Vietnamese Americans. *Quality of Life Research*, 22, 243 -252.
- Turner, B. (1996). *The body and society (2nd Edition)*. London: Sage.
- Twaddle, A. (1969). Health decisions and sick role variations: an exploration, *Journal of Health and Social Behavior*, 10, 105–14.
- Wilson, D. M., & Ciliska, D. (1984). Lifestyle assessment: testing the FANTASTIC instrument. *Can Fam Physician*, 30, 1863 – 1866.
- Williams, D. R., & Collins, C. (1995). U.S. socioeconomic and racial differences in health: patterns and explanations. *Annual Review of Sociology*, (21):349-386.
- World Health Organization (WHO). (1998). *Health promotion glossary*. Geneva.
- Young, J. T. (2004). Illness behaviour: A selective review and synthesis. *Sociology of Health & Illness*, 26(1), 1–31
- Ziglio, E., Currie, C., Rasmussen, V. B. (2004). The WHO cross-national study of health behaviour in school aged children from 35 countries: findings from 2001-2002. *Journal of School Health*, 74(6), 204-206.

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