REVIEW ARTICLE

Pender's health promotion model in medical research

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Abstract

This review shows how researchers use pander's health promotion model. We included all articles in which Pender's health promotion has been used for theoretical framework. Eligible articles were selected according to review of abstracts. Search was conducted using the electronic database from 1990 to 2012. Based on our search, 74 articles with various methodologies were relevant for review. Their aims of these studies were to predict effective factors/barriers in health promotion behaviours, to detect effects of intervention programme for improving health promotion behaviours, test the model, identify quality of life and health promotion behaviour, predict stage of change in related factors that affect health promotion behaviour, prevent the events that interfere with health promotion behaviour, develop another model similar to this model, compare this model with another model, determine the relationship of variables associated to health promotion behaviours.

Keywords: Pander's health promotion model, Narrative review, Health.

Introduction

Improving and protecting the health of the population have always been a priority for health policy makers. To attain this, different approaches have been tried to organise healthcare and to obtain the necessary impact. Initially, models of healthcare focussed mainly on strategies aimed at recovering health; at later stages, more attention was given to strategies oriented towards prevention of illnesses and health promotion. The need to change the focus of healthcare derives from demographic, epidemiological, socio-economic, communicational and life changes that populations have experienced, and are the result of the recognition of risk factors that modify health needs.[1]

Quality of life (QOL) has been a philosophical and socio-political phenomenon which in recent years has developed into a theory, particularly in response to the growing interest in QOL by those involved in healthcare.[2] In order to improve the QOL of the population, The World Health Organisation (WHO) states that health promotion is the fundamental strategy in healthcare that implies changes in behaviour and the adoption of patterns that promote good health.[1] O'Donnell defined health promotion as "the science and art of helping people change their lifestyle to move toward a state of optimal health". Lifestyle change can be facilitated by a combination of efforts to enhance awareness, change behaviour, and create environment that support good health practices.[3] There are many models of Health Related Quality of Life (HRQOL), but most of them neglect the relationship between specific intervention and the factors that affect HRQOL. Nursing researchers investigating HRQOL often use approaches/interventions from other models and theories, allowing connection to be made between HRQOL and these models and theories. One of these is Pender's theory of health-promotion behaviours.[2]

Pender's model of health promotion is a nursing model which helps to predict the health behaviour. The revised model is based on social learning theory which was modified to identify the factors associated with exercise behaviour where exercise is a health-promoting behaviour that is influenced by personal and behaviour-specific cognitions and affect. Behaviour- specific cognitions and affect are categories of major motivational significance and are critical for intervention, as they are subject to modification through nursing actions.[3]

Pender's health promotion model (HPM), derived from social cognitive theory, includes three groups of factors that influence health behaviour: individual characteristics; behaviour-specific cognitions and affect; and immediate behavioural contingencies. The model shows how these three factors can both directly and indirectly influence health-promoting behaviour.[4,5] Pender based his research on the Social Cognitive Theory of Bandura and the Value Expectancy Theory, which resulted in the development of a model that explains, predicts and modifies forms of behaviour that promote health.[6] The purpose of this narrative review was to present how researcher could and

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have used Pender's health promotion model.

Material and Methods

Narrative is used to describe a variety of ways humans perform the "telling of events."[7] Carr suggests that narrative is not just a way of describing events, but is a part of the events.[8] The retelling merges events with reality, however "true" or "accurate" they may be.[9] This method of synthesizing research around the topic enables a comprehensive, "textual approach that provides an analysis of the relationships within and between studies and an overall assessment of the robustness of evidence". Narrative methods are a scientific tool to answer a research question capable of yielding data for analysis. Narrative is not simply storytelling, but it is a process like any other research methodology.[10] Narrative reviews have been criticised as biased due to their unclear search and analysis methods. However, narrative reviews which specifically synthesize research around a topic using a rigorous approach are credited as providing comprehensive and transparent perspectives.[11] To ensure rigour, this narrative review adapted the general framework for narrative synthesis described by the Centre for Reviews and Dissemination in 2009 to create a guiding framework.[12]

The review included all articles that use Pender's health promotion for theoretical framework. Eligible articles were selected according to a review of abstracts which stated that the study was conducted based on this model. If studies were not guided by this model, for example in selecting variables that were examined, they were excluded.

A literature search was conducted using the electronic databases of Pub Med, Google scholar, proquest, Elsevier from 1990 to 2012 for English-language articles. Iranian databases were also used. The search terms used were: Pender, Health, Health promotion, and Health promotion model.

The titles and abstracts of articles were examined. Full text of the articles was obtained when the abstracts matched the inclusion criterion. Given the diversity of papers according to their focus, aim and context, a more refined selection process was undertaken.

The analysis of included papers involved a critical appraisal of abstracts or full articles. Tables of information from the studies were developed to aid synthesis which enabled content to be identified into key factors that assumed prominence in each paper (Figure).[13] These factors identified two main themes in the literature where leadership influenced organisational development and learning, and undergraduate clinical education.

Figure: Guiding framework for narrative synthesis.

Beginning of synthesis

1. Developing a concept
   a) Guided by the research aim which asserts leadership positively influences clinical learning in nursing contexts.
2. Developing a preliminary Synthesis
   a) Search strategy developed.
   b) Initial scope for research that could be linked to the concept via online electronic database search and secondary search via journal and reference lists.
3. Groupings and Clusters
   a) Preliminary reading and review of articles.
   b) Data extraction.
4. Exploring relationships within and between Studies
   a) Refined screening via review
5. Assessing robustness of synthesis.
6. Reflecting critically on the process
7. Conclusions and Recommendations

Results

The search produced 74 articles that were relevant for this review (Table).

The reviewed articles consisted of empirical reports and cross-sectional descriptive studies,[14-17] integrative reviews,[18,19] descriptive studies,[16,20-36] comparative analytical studies,[5,6,37-39] incidence studies,[40] descriptive correlation studies,[34,39,41-47] meta-ethnographic approach,[48] interventional studies,[19,49-55] randomised controlled trials,[56] longitudinal design,[57,58] qualitative studies.[41,59]

The review included studies on Pender's HPM that embedded nine goals as follows:

1. To predict effective factors/barriers in health promotion behaviours. There were 18 papers retrieved that predicted these factors and barriers.[6,15,17,24,25,27,31,32,34-37,42,44,45,47,53,60-62] Study by Agazio et al determined the extent to which selected demographic characteristics, definition of health, perceived health status, perceived self-efficacy, and resources are related to the health-promoting behaviours of active-duty women with children according Pender's model. This study used methodological triangulation to test a hypothesized model. It showed that resource availability and commitment were key components of being successful at balancing home and work demands.[60]

2. To detect effects of intervention programme for improving health-promotion behaviours. There were 14 articles retrieved for this goal.[6,19,28,48-53,56,57,63-65] Eshah's non-equivalent quasi-experimental study evaluated the effectiveness of education, counselling and behavioural skill-building programme on Jordanian working adults'

Table: The list of studies that were retrieved.

	Author	Title	Year	Journal
1	Becker HA, Stuifbergen AK, Ingalsbe K, Sands D.	Health promoting attitudes and behaviours among persons with disabilities.	1989	Int J Rehabil Res.;12(3):235-50.
2	Frauman AC, Nettles-Carlson B	Predictors of a health-promoting life-style among well adult clients in a nursing practice.	1991	J Am Acad Nurse Pract. Oct-Dec;3(4):174-9.
3	Herron DG	Strategies for promoting a healthy dietary intake.	1991	Nurs Clin North Am. Dec;26(4):875-84.
4	Ohnson JL, Ratner PA, Bottorff JL, Hayduk LA	An exploration of Pender's Health Promotion Model using LISREL.	1993	Nurs Res. May-Jun;42(3):132-8.
5	Lusk SL, Kelemen MJ.	Predicting use of hearing protection: a preliminary study.	1993	Public Health Nurs. Sep;10(3):189-96.
6	Johnson JL, Ratner PA, Bottorff JL, Hayduk LA	An exploration of Pender's Health Promotion Model using LISREL.	1993	Nurs Res. May-Jun;42(3):132-8.
7	Stuifbergen AK, Becker HA.	Predictors of health-promoting lifestyles in persons with disabilities.	1994	Res Nurs Health. Feb;17(1):3-13.
8	Ahn HG.	[Factors related to the white collar workers' health behaviour and the degree of their health practice in a metropolitan city].	1994	Kanhohak Tamgu.;3(1):116-44; discussion 145-7.
9	Gillis AJ.	Determinants of health-promoting lifestyles in adolescent females.	1994	Can J Nurs Res. Summer;26(2):13-28.
10	Campbell J, Kreidler M.	Older adults' perceptions about wellness.	1994	J Holist Nurs. Dec;12(4):437-47.
11	Ratner PA, Bottorff JL, Johnson JL, Hayduk LA.	The interaction effects of gender within the health promotion model.	1994	Res Nurs Health. Oct;17(5):341-50.
12	Puskar M.	Smoking cessation in women: findings from qualitative research.	1995	Nurse Pract. Nov;20(11 Pt 1):80, 83-6, 89
13	Clément M, Bouchard L, Jankowski LW, Perreault M.	[Adoption of health promotion behaviours in first-year baccalaureate nursing students: pilot study].	1995	Can J Nurs Res. Winter;27(4):111-31.
14	Lannon SL.	Using a health promotion model to enhance medication compliance.	1997	J Neurosci Nurs. Jun;29(3):170-8.
15	Colwell LJ, Prather CM, Phillips SF, Zinsmeister AR.	Effects of an irritable bowel syndrome educational class on health-promoting behaviours and symptoms.	1998	Am J Gastroenterol.;93(6):901-5.
16	Larouche R.	Determinants of college students' health-promoting lifestyles.	1998	Clin Excell Nurse Pract. Jan;2(1):35-44.
17	Martinelli AM.	An explanatory model of variables influencing health promotion behaviours in smoking and nonsmoking college students.	1999	Public Health Nurs. Aug;16(4):263-9
18	Lusk SL, Hong OS, Ronis DL, Eakin BL, Kerr MJ, Early MR	Effectiveness of an intervention to increase construction workers' use of hearing protection.	1999	Hum Factors. Sep;41 (3):487-94
19	Wang HH	Predictors of health promotion lifestyle among three ethnic groups of elderly rural women in Taiwan	1999	Public Health Nurs. 16(5):321-8
20	Phillips CY, Palmer CV, Wettig VS, Fenwick JW	Attitudes toward nurse practitioners: influence of gender, age, ethnicity, education and income.	2000	J Am Acad Nurse Pract. Jul;12(7):255-9.
21	Lucas JA, Orshan SA, Cook F.	Determinants of health-promoting behaviour among women ages 65 and above living in the community.	2000	Sch Inq Nurs Pract. Spring;14(1):77-100; discussion 101-9.
22	Piazza J, Conrad K, Wilbur J.	Exercise behaviour among female occupational health nurses. Influence of self efficacy, perceived health control, and age.	2001	AAOHN J. Feb;49(2):79-86.
23	Wang HH	A comparison of two models of health-promoting lifestyle in rural elderly Taiwanese women.	2001	Public Health Nurs. May-Jun;18(3):204-11.
24	Agazio JG, Ephraim PM, Flaherty NB, Gurney CA.	Health promotion in active-duty military women with children.	2002	Women Health. 35(1):65-82.
25	Sample D, Sinincrope P, Wargovich M	Post study aspirinintake and factors motivating participation in a colorectal cancer chemoprevention.	2002	Cancer epidemiology, biomarkers & prevention.;81:281-5.
26	Hui WH.	The health-promoting lifestyles of undergraduate nurses in Hong Kong.	2002	J Prof Nurs. Mar-Apr;18(2):101-11.
27	Wu TY, Pender N, Yang KP.	Promoting physical activity among Taiwanese and American adolescents.	2002	J Nurs Res. Mar;10(1):57-64.
28	Lohse JL	A bicycle safety education program for parents of young children.	2003	J Sch Nurs. Apr;19(2):100-10.
29	Buijs R, Ross-Kerr J, Cousins SO, Wilson D.	Promoting participation: evaluation of a health promotion program for low income seniors.	2003	J Community Health Nurs. Summer;20(2):93-107.
30	Williams A, Wold J, Dunkin J, Idleman L, Jackson C.	CVD prevention strategies with urban and rural African American women.	2004	Appl Nurs Res. Aug;17(3):187-94.
31	Seo HM, Hah YS.	A study of factors influencing on health promoting lifestyle in the elderly--application of Pender's health promotion model	2004	Taehan Kanho Hakhoe Chi. Dec;34(7):1288-97
32	Fowles ER, Feucht J	Testing the barriers to healthy eating scale.	2004	West J Nurs Res. Jun;26(4):429-43.
33	Bae SM, Jeong I, Kim J, Jeon SS.	[A study on influencing factors in health promoting behaviours of women workers at small-scale industries]. [Art	2004	Taehan Kanho Hakhoe Chi. Oct;34(6):964-73.

34	Lee KJ, Chang CJ, Yoo JH, Yi YJ.	[Factors effecting health promoting behaviours in middle-aged women].	2005 Taehan Kanho Hakhoe Chi. Jun;35(3):494-502.
35	Wilson M.	Health-promoting behaviours of sheltered homeless women.	2005 Fam Community Health. Jan-Mar;28(1):51-63.
36	Taechaboonsermsak P, Kaewkungwal J, Singhasivanon P, Fungladda W, Wilailak S.	Causal relationship between health promoting behaviour and quality of life in cervical cancer patients undergoing radiotherapy.	2005 Southeast Asian J Trop Med Public Health. Nov;36(6):1568-75.
37	Hong O, Lusk SL, Ronis DL.	Ethnic differences in predictors of hearing protection behaviour between Black and White workers.	2005 Res Theory Nurs Pract. Spring;19(1):63-76.
38	McDonald PE, Brennan PF, Wykle ML.	Perceived health status and health-promoting behaviours of African-American and White informal caregivers of impaired elders.	2005 J Natl Black Nurses Assoc. Jul;16(1):8-17.
39	Han KS, Lee SJ, Park ES, Park YJ, Cheol KH.	Structural model for quality of life of patients with chronic cardiovascular disease in Korea.	2005 Nurs Res. Mar-Apr;54(2):85-96
40	Rothman NL, Lourie RJ, Brian D, Foley M.	Temple Health Connection: a successful collaborative model of community-based primary health care.	2005 J Cult Divers. Winter;12(4):145-51.
41	Padula CA, Sullivan M	Long-term married couples' health promotion behaviours: identifying factors that impact decision-making.	2006 J Gerontol Nurs. Oct;32(10):37-47.
42	Srof BJ, Velsor-Friedrich B	Health promotion in adolescents: a review of Pender's health promotion model	2006 Nurs Sci Q. 9(4):366-73
43	Smith AB, Bashore L.	The effect of clinic-based health promotion education on perceived health status and health promotion behaviours of adolescent and young adult cancer survivors.	2006 J Pediatr Oncol Nurs. 23(6):326-34.
44	Ronis DL, Hong O, Lusk SL.	Comparison of the original and revised structures of the Health Promotion Model in predicting construction workers' use of hearing protection.	2006 Res Nurs Health. Feb;29(1):3-17.
45	Carreño J, Vyhmeister G, Grau L, Ivanovic D.	A health promotion programme in Adventist and non-Adventist women based on Pender's model: a pilot study.	2006 Public Health. Apr;120(4):346-55. Epub 2006 Feb 14.
46	Cid H P, Merino E JM, Stiepovich B J	Biological and psychosocial factors that predict health promoting lifestyles	2006 Rev Med Chil. Dec;134(12):1491-9. Epub 2007 Jan 24.
47	Yang K, Laffrey SC, Stuifbergen A, Im EO, May K, Kouzekanani K.	Leisure-time physical activity among midlife Korean immigrant women in the US.	2007 J Immigr Minor Health. Oct;9(4):291-8.
48	Conway AE, McClune AJ, Nosel P	Down on the farm: preventing farm accidents in children	2007 Pediatr Nurs. ;33 (1):5-8
49	Mendias EP, Paar DP.	Perceptions of health and self-care learning needs of outpatients with HIV/AIDS.	2007 J Community Health Nurs. Spring;24(1):49-64.
50	Eschiti VS.	Complementary and alternative modalities used by women with female-specific cancers.	2008 Holist Nurs Pract. May-Jun;22(3):127-38; quiz 139.
51	Shin KR, Kang Y, Park HJ, Cho MO, Heitkemper M.	Testing and developing the health promotion model in low-income, Korean elderly women.	2008 Nurs Sci Q. Apr;21(2):173-8. Epub 2008 Feb 8.
52	Taymoori P, Niknami S, Berry T, Lubans D, Ghofranipour F, Kazemnejad A	A school-based randomized controlled trial to improve physical activity among Iranian high school girls.	2008 Int J Behav Nutr Phys Act. Apr 3;5:18.
53	Standiford Brown A.	Promoting physical activity amongst adolescent girls.	2009 Issues Compr Pediatr Nurs. Jun;32(2):49-64.
54	Guedes NG, Moreira RP, Cavalcante TF, de Araujo TL, Ximenes LB.	Students' physical activity: an analysis according to Pender's health promotion model	2009 Rev Esc Enferm USP. Dec;43(4):774-80
55	Taymoori P, Niknami S, Berry T, Ghofranipour F, Kazemnejad A.	Application of the health promotion model to predict stages of exercise behaviour in Iranian adolescents.	2009 East Mediterr Health J. Sep-Oct;15(5):1215-25.
56	Ho AY, Berggren I, Dahlborg-Lyckhage E	Diabetes empowerment related to ender's Health Promotion Model: a meta-synthesis	2010 Nurs Health Sci. Jun;12(2):259-67.
57	Eshah NF, Bond AE, Froelicher ES.	The effects of a cardiovascular disease prevention program on knowledge and adoption of a heart healthy lifestyle in Jordanian working adults.	2010 Eur J Cardiovasc Nurs. Dec;9(4):244-53. Epub 2010 Mar 17.
58	Taymoori P, Lubans D, Berry TR.	Evaluation of the health promotion model to predict physical activity in Iranian adolescent boys.	2010 Health Educ Behav. Feb;37(1):84-96
59	Agazio JG, Buckley KM	Finding a balance: health promotion challenges of military women	2010 Health Care Women Int. Sep;31(9):848-68.
60	Briggs CL, Lovan S, Cornell A.	Faith in action: serving single moms.	2011 J Christ Nurs. Oct-Dec;28(4):223-5.
61	Mohamadian H, Eftekhar H, Rahimi A, Mohamad HT, Shojaiezade D, Montazeri A.	Predicting health-related quality of life by using a health promotion model among Iranian adolescent girls: a structural equation modeling approach.	2011 Nurs Health Sci. Jun;13(2):141-8
62	Noroozi A, Tahmasebi R, Ghofranipour F, Hydarnia A	Effect of Health Promotion Model (HPM) Based Education on Physical Activity in Diabetic Women.	2011 Iranian Journal of Endocrinology and Metabolism. ;13(4):432-6.

knowledge, attitudes and beliefs about coronary heart disease (CHD) and adoption of a healthy lifestyle based on Pender's model. The Response Questionnaire and Health promoting lifestyle profile-II (HPLP-II) were used. Experimental group showed significantly better cardiac related knowledge, better scores for attitudes, and better scores for the health responsibility, nutritional behaviours, interpersonal relationships and total HPLP-II score. Subject's beliefs, physical activity, spiritual growth and stress management did not improve significantly. Men had better scores in beliefs and women had better scores for health responsibility.[53]

3. To test the model. Nine papers were available to test this model.[26,58,59,66-71] Chin et al supported that Pender's model could be a conceptual framework for future nursing practice and research studies. The study was conducted to test the hypothesis in low-income elderly Korean women using interviews focussed on the concepts in HPM. Almost 73% variance in health-promoting behaviours was noted due to prior health-related behaviour, biological, psychological and socio-cultural factors, behaviour-specific cognitions and affect, environmental influences, commitment to a plan of action, and health-promoting behaviour.[66]

4. To identify QOL and health-promotion behaviour. Eight papers were retrieved.[14,16,18,21,23,39,43,46] Hu conducted a descriptive study on Pender's model on 169 undergraduate nurses in Hong Kong to find any difference in their health-promoting lifestyles, as measured by HPLP II in different age groups, gender, income, employment status, and levels in undergraduate nursing education. These outcomes were explored with future recommendations made to improve the weaknesses in the students' health-promoting lifestyles.[21]

5. To predict stage of change in related factors affecting health promotion behaviour. Two articles were found on this issue.[55,72] Taimmori assessed the stages of behavioural change in exercise of students in Iran according to Pender's model. The findings supported the importance of self-efficacy for engaging in physical activity for both genders and suggested that barriers faced by Iranian girls should be considered in interventions to increase physical activity rates.[55]

6. To prevent the events which interfere with health-promotion behaviour. Three articles were available in this regard.[29,40,73] Paskur used this model to assess smoking cessation. The exploratory study was done to describe the experience of successful smoking cessation in adult women. The findings were consistent with Pender's model.[29]

7. To develop another model. Five such articles were found.[20,26,30,39,54] Han et al designed a structural model to represent the QOL of patients with CCVD, on the basis of Pender's model. Data was collected through a questionnaire at a university hospital in Seoul. The modified model was found appropriate to predict QOL of patients with CCVD.[39]

8. To compare this model with another model. Wang tried to examine: (1) the relations with age, marital status, social class, perceived health, self-care agency, health-promoting lifestyle, and well-being in two groups of rural elderly Taiwanese women, and (2) to validate and compare two models using two age groups of rural elderly Taiwanese women. Based on the conceptualisations of the major study variables in Orem's self-care model, Pender's model was proposed for this study. A survey-interview method was used for data collection where two groups of elderly women were recruited for the study. Two models of health-promoting lifestyle were tested with a path analysis, using the Linear Structural Relations 8 (LISREL 8) programme. The resultant models yielded chi χ^2 of 13.69 with 9 degrees of freedom ($p<0.13$) in the younger group, and chi χ^2 of 15.76 with 10 degrees of freedom ($p<0.11$) in the older group. Other fit indices also indicated that the two models fitted the data well. Community nurses can assess, identify and use effective interventions for rural elderly women on the basis of this study.[38]

9. To determine the relationship of variables that are associated with health-promotion behaviours. Two articles were found in this regard.[14,23] Yang investigated the level of leisure-time physical activity (LTPA) among midlife Korean-American women and tried to determine the relationships of LTPA with individual characteristics and behaviour-specific cognition and affects. The cross-sectional descriptive study was done using a health-promotion model of physical activity adapted from Pender's model.[14]

Discussion

The narrative study showed that Pender's HPM can be used for conducting studies that predict effective factors/barriers in health-promotion behaviours, detect impacts of intervention programme for improving health-promotion behaviours, test this model, identify QOL and health-promotion behaviour, predict stage of change in related factor affecting health promotion behaviour, prevent the events that interfere with health-promotion behaviour, develop another model according to this model, compare this model with another model, and to determine the relationship of variables associated with

health-promotion behaviours.

The studies predicting effective factors/barriers and the significant determinants of HRQOL in health-promotion behaviours emphasised the fact that according to Pender's model, healthcare providers/professionals can understand and address modifiable behaviour-specific variables.[48] Therefore, they are equipped to identify health benefits/barriers and offer health-promotion guidance and social support to all people. Also, they should consider these variables in interventions to increase healthy lifestyle.

Applications of Pender's model guide the development of successful theory-based interventions. These studies provided evidence of the effectiveness of several interventions based on this theory. Williams et al[51] showed that Pender's health promotion behaviour model is useful in decreasing risk factors of diseases, especially chronic diseases and symptoms, and promote healthy lifestyle.

For identifying QOL and health-promotion behaviour and to predict stage of change in related factors affecting health-promotion behaviour, some researchers stated that Pender's model can be very useful, especially to examine the similarities and differences among groups. Healthcare providers could use this concept to assess, identify and use effective health-promotion programmes, strategies and interventions.

Some studies explored what may determine or predict health-promotion behaviours.[41] Such research can illuminate some challenges about healthy lifestyle and how best to support people's ability to commit to healthy behaviours. These activities are very important for healthcare providers and use of this model can help them to address these goals. Finding from these papers have important information that can inform future intervention and facilitate interventions for all population groups and plan to develop health education programmes to decrease symptoms and promote satisfaction for health promotion.

By using Pender's model, a healthcare provider can prevent the events that interfere with health-promotion behaviour. All people may benefit from it and promote healthy behaviours that influence avoidance of unhealthy lifestyle.[73] Some studies were conducted to compare Pender's model with other models. These studies supported the Pender's revised model, and indicated that it can be useful.[74] According to this model, health promotion can increase healthy behaviours, enhance healthy status and decrease healthcare cost.[25]

Conclusions

Health-promoting behaviour, integrated to a healthy lifestyle, allows improvement of health and generation of a better QOL at any stage of development. The health-promoting behaviour factors proposed by Pender and which have been considered in the intervention and evaluation of the present results are self-actualisation, health responsibility, exercise, nutrition, interpersonal support and stress management. Predicting and detecting significant healthy behaviours and how to promote these behaviours are major concerns for healthcare professionals. The findings showed that this workable model is useful to provide information for the development of intervention, prevent unhealthy accident and risk factors in diseases, practice changes and health promotion activities. Also by using this model as theoretical framework, researchers can design and apply more specific studies that are directed towards improving healthy lifestyle and detecting key component of health-related behaviours among different age groups, gender, income, employment status, and level of education. This model is easy to understand and implement, and has been used successfully in studies. While some models have tested more extensively, Pender's HPM does have a body of extent literature that provides support for its use.

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