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Exploring experiences and perspectives of nursing students on the promotion of self-management in patients with coronary heart disease: A qualitative study --Manuscript Draft--

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Corresponding Author:	Adedolapo Adeleke Barts Health NHS Trust LONDON, UNITED KINGDOM
Corresponding Author Secondary Information:	
Corresponding Author's Institution:	Barts Health NHS Trust
Corresponding Author's Secondary Institution:	
First Author:	Adedolapo Adeleke
First Author Secondary Information:	
Order of Authors:	Adedolapo Adeleke Dr Sofia Llahana
Order of Authors Secondary Information:	
Abstract:	Background Self-management in patients with Coronary Heart Disease (CHD) is essential to prevent cardiac complications and to minimise morbidity and mortality. The majority of the risk factors in coronary heart disease are preventable however the National Health Service (NHS) and broader public sector face substantial challenges in reducing factors such as smoking, lack of exercise and obesity CHD is the leading primary cause of death globally with approximately 80,000 deaths from CHD in the UK each year. The UK national guidelines recommend cardiac rehabilitation for all patients who have had a myocardial infarction (MI), percutaneous coronary intervention (PCI) or coronary artery bypass graft (CABG). Self-management for patients with CHD aims to improve adherence to treatment and lifestyle measures and behaviour change. Evidence suggests that nurses play a significant role in supporting patients to optimise their self-management skills, but often constraints such as staff and material resources or inadequate training, may hinder nurses' ability to fully support patients with their self-management. Aim The aim of this study was to explore the knowledge and perceptions of student nurses on promotion of self-management and life style changes in patients with CHD. Methods A qualitative methodology was adopted utilising semi-structured face-to-face interviews with undergraduate nursing students in their third and fourth year of studies. Through a purposive sampling, eight participants were recruited from a Higher Education Institute in Scotland. Interviews were transcribed verbatim and analysed by thematic analysis. Findings Three themes emerged: self-management, barriers to effective self-management and health promotion. The perceived barriers included lack of effective communication, patients' perception of their illness and lack of time and identified motivators to good delivery of health promotion.

Additional Information:	
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Exploring experiences and perspectives of nursing students on the promotion of self-management in patients with coronary heart disease: A qualitative study

Adedolapo Adeleke
Dr Sofia Llahana

Abstract

Background

Self-management in patients with Coronary Heart Disease (CHD) is essential to prevent cardiac complications and to minimise morbidity and mortality. The majority of the risk factors in coronary heart disease are preventable however the National Health Service (NHS) and broader public sector face substantial challenges in reducing factors such as smoking, lack of exercise and obesity

CHD is the leading primary cause of death globally with approximately 80,000 deaths from CHD in the UK each year. The UK national guidelines recommend cardiac rehabilitation for all patients who have had a myocardial infarction (MI), percutaneous coronary intervention (PCI) or coronary artery bypass graft (CABG).

Self-management for patients with CHD aims to improve adherence to treatment and lifestyle measures and behaviour change. Evidence suggests that nurses play a significant role in supporting patients to optimise their self-management skills, but often constraints such as staff and material resources or inadequate training, may hinder nurses' ability to fully support patients with their self-management.

Aim

The aim of this study was to explore the knowledge and perceptions of student nurses on promotion of self-management and life style changes in patients with CHD.

Methods

A qualitative methodology was adopted utilising semi-structured face-to-face interviews with undergraduate nursing students in their third and fourth year of studies. Through a purposive sampling, eight participants were recruited from a Higher Education Institute in Scotland. Interviews were transcribed verbatim and analysed by thematic analysis.

Findings

Three themes emerged: self-management, barriers to effective self-management and health promotion. The perceived barriers included lack of effective communication, patients' perception of their illness and lack of time and identified motivators to good delivery of health promotion.

Introduction

Atherosclerosis remains the main cause of mortality and morbidity (Sato & Hayashi, 2012).

The Department of Health (2005) defines self-management as:

The action individuals and carer take to themselves, their children, their families and others to stay fit and maintain good physical and mental health; meet social and psychological needs; prevent illness or accidents; care for minor ailments and long term conditions and maintain health after an acute illness or discharge from hospital.

Evidence suggests that CHD can be slowed or reversed through lifestyle changes. Despite this, there is a low uptake in patients effectively self-managing their long term conditions; this may be due to the lack of focus put on the importance of self-management in the primary through to tertiary sector of health care. Several studies have shown barriers that influence patients' adherence to self-management, such as, the effect of patient's perception of their illness, patient education, and self-efficacy on their adherence to lifestyle changes and participation in self-management (Mosleh et al 2014; Dullaghan et al, 2014). Studies indicate that illness perceptions predict a number of health related behaviour modifications among individuals with chronic illness. Without the appropriate education and advice, patients might have misconceptions about their illness, which might affect their speed of recovery (French et al, 2005). Research has also pointed to insufficient information being given to patients about lifestyle modification or found that they have insufficient knowledge to be able to make lifestyle changes. Alm-Roijer et al (2004) concluded that in order to improve compliance of patients with lifestyle changes, educating patients may give patients a deeper knowledge of risk factors for CHD, which can lead to adherence to recommended lifestyle changes and self-management of their condition. Albbaran et al (2014) showed patients expected nurses to be skilled in the communication of necessary information about the cause of their cardiovascular condition and how to implement lifestyle changes. However, the study showed nurses lacked in-depth understanding and knowledge of the cardiac medications that they were giving to patients. Patients highlighted that there was lack of knowledge from nurses working in cardiology on the patient journey beyond the cardiac unit, showing the need for greater knowledge of the life beyond critical care and continuous professional development.

As student nurses are going to be the nurses of the future, Badir et al (2012) concluded that there is a need for a greater emphasis to be put on nursing education to improve nursing student's knowledge and attitudes towards CVD prevention and nursing students would benefit from more health promotion courses in their nursing curriculum. This is concurrent with Beijing by Wu et al (2011) which showed that although majority of participants had adequate

knowledge about most of the common CVD risk factors, one third of participants were unable to identify the target goals for reduction of risk factors. Improving the knowledge and attitudes of nurses could improve patients' adherence to lifestyle changes and their engagement in self-management (Wu et al, 2011).

There is a need to improve student nurses and nurse's knowledge on promotion of self-management and improve competencies of health professionals. Limited research has been conducted with nursing students on their knowledge on the promotion of self-management therefore; the aim of the study was to explore student nurses perspective on promoting self-management with patients with coronary heart disease.

Methods

A qualitative research method with semi-structured face to-face individual interviews was used in this study. This is an appropriate method of data collection when the enquiries relate to personal experience and perceptions.

Sample and recruitment

Participants were required to have received formal education through cardiovascular disease module at university and had clinical experience looking after CHD patients. For this reason, only third and fourth year nursing students were eligible to participate in this study.

Convenient sampling was used to recruit patient and recruitment stopped once data saturation has been reached. To recruit participants, an invitation to participate in the study was sent to students through their course coordinator, if interested, participants were asked to read attached participation information sheet (PIS). In total, 8 student nurses agreed to participate; one was used for the pilot study. All participants responded by telephone or via email to the researcher before an interview date were agreed.

Data collection

One to one semi-structured interviews were conducted in the University and lasted approximately one hour. Semi structured interviews were conducted with eight participants in a location chosen by the participants. All interviews were audio taped and transcribed verbatim.

An interview guide was used. The interview guide was developed with the help of a literature review, researchers own insight and experience with the subject.

Topic guide was revised after being piloted with one student nurse to improve reliability, assess feasibility of data collection, and reduce any unexpected problems. The questions asked in the pilot study didn't provide information-rich data; therefore changes had to be made to the topic guide questions. For this reason, this interview was not included in the final study findings. Open questions were used to know participants perceptions towards the training nurses needed, their knowledge of CHD, communication skills and behavioural changes of patients.

Ethics

Ethical approval was obtained from the University of Glasgow Ethics committee. After obtaining ethical committee approval, permission was sought and given by the Dean of learning and teaching at the University of Glasgow to interview student nurses. Due to the study not involving patients or staff, NHS ethical approval was not sought. Written consent was also obtained before data collection. To maintain anonymity, pseudonyms were used to protect the identity of participants and the location where the interview took place was obscured. Participants were informed that they could withdraw at any time and that confidentiality was assured.

Data Analysis

All interviews were transcribed verbatim and analysed using content thematic approach to categorise and code the transcribed interview data. The researcher transcribed all audio recordings verbatim, and participants were given pseudonyms to protect their identity. Categories were generated and sent to study participants to member check and receive feedback on whether findings reflected their views. In addition, data was peer reviewed by supervisor to ensure data reflected the information in transcripts.

Findings

The three themes emerged from the interviews were: improving self-management, barriers to effective management and health promotion. The following sections show the meaning of each theme and sub-theme with relevant quotations.

Self-management	Barriers to effective management	Health Promotion
Improving knowledge and skills	Lack of time	Resources
Encouraging behavioral changes	Lack of effective communication	Positive reinforcement
Patient Education	Illness Perception	Nurse Education

Self-Management

Knowledgeable. Student nurses discussed the importance of nurses having clinical knowledge of the condition and interventions for preventing or treating coronary heart disease. In order for patients to trust nurse educators and be willing to adhere to advice, it was important for patients to perceive nurses as being competent and confident in the dissemination of information. Participants were asked questions on CHD risk factors and importance of self-management. All participants had an overall general knowledge of the modifiable risk factor of CHD; P3 mentioned some risk factors of CHD:

“Obesity and diet clogs the arteries and basically just narrows them em diabetes damages blood vessels including ones in the heart, high blood pressure puts strain on the blood vessels”. (P3)

Participants (n=3) reported self-management involved patients being active in their own health care and taking responsibility for their condition. P1 described it like this: *‘...creating a sense of responsibility for the person so that they know em that their health is not just in the hands of people in the hospital, it’s in their own hands to look after themselves...’*. All participants indicated patient self-managing their condition as important and valuable to improving clinical outcomes. P2 discussed the positive impact self-management had on a patient’s independence:

“....if they are self-managing they can take control of the disease like more by themselves and it means less reliance on the NHS or whoever is taking care of them and I think that gives people like quite a boost because then they feel more in control”.

Behavioural Change. Student nurses discussed behavioural modification in terms of encouraging lifestyle behaviour changes such as regular exercise, quitting smoking and dietary changes while improving self-efficacy:

"...you would give them things to do themselves and you would show them how to do it, how to go home and do it and come back for follow up..."(P6)

Similarly, P5 identified the importance of educating patients on technical skills and encouraging patients in an effort to give them a sense of responsibility over their care which might empower them to adhere to life style behavioural changes. Promoting behavioural change encourages patient problem solving skills rather than depending on health care professionals to solve the problems for the patients:

"...the nurse will say well you can take control of your own time, you know, I can teach you how to do this injection and that's yours and you can pick when you do it and pretty much have your life back, things like that"(P5)

However, P4 and P1 discussed how a didactic approach to self-management is insufficient to bring about change in behaviour and cited the importance of health professionals making sure the patients knows when to integrate these skills in their everyday lives in order to build patients self-efficacy and become autonomous in their care rather than depending on health care professionals. :

"...if they have had cardiac event or they have got angina, do they know what their GTN spray does, do they know when to use it, do they know how much to use it? And when if it's not taking correct effect, when they need to up to the next level of support". (P1)

The need for behaviour modification in terms of patients making appropriate lifestyle behaviour changes to improve their health was highlighted frequently during the discussion by participants. Student nurses mentioned physical activity, smoking, obesity and diet. P1 discussed personalising patients' lifestyle changes in order to increase adherence:

"You know I don't have lots of sugar but you have lots of salt and lots of fat you know it's about explaining what all that means and maybe using examples to explain what you mean so...well you know I take plenty of fruit juice or orange juice maybe you need to say well you now a small amount of fruit juice is good"

Patient Education. Increasing patients' knowledge through educating them about their condition was highlighted as important to increase adherence levels to self-management. P5 stated: *'...if patients are uneducated they won't be able to effectively self-manage....'* Most participants discussed patient education in terms of giving information to patients about their conditions, as exemplified by P5:

"The more they know, the more information they have about it and the more educated they are the better choices they can make and the better understanding they have".

Participants discussed information patients needed post coronary heart disease diagnosis in terms of how CHD can be recognized, the severity of the condition, prognosis and lifestyle changes needed to be made.

"They need to know about their condition in particular, any kind of information they can be given as in how severe it is, what is going to happen if nothing changes what the prognosis is..."

(P5)

Barriers to effective self-management

The analysed data showed there were barriers student nurses felt affected nurses in their health promotion role. Various aspects of barriers to effective self-management were discussed by participants. The three most prominent barriers identified were: Lack of time, Communication and Perception.

Lack of Time: Majority of the participants attributed nurses being unable to promote self-management with coronary heart disease patients to nurses' workload and not having adequate time to complete all their tasks. Participants identified insufficient time as a barrier prior to being asked about barriers to effective health promotion, this might indicate the extent to which this factor hinders their role to promote self-management. Three participants described how they felt nurses deemed health promotion as less important to their other roles therefore promotion of self-management in patient was only carried out if there was enough time:
...I think a lot of people see a lot of the medication side and the more technical side is more important because a lot of people are stuck on the mind-set that medication fixes things.

(P3)

Being too busy, trying to manage crisis and leaving the other things perhaps that are really important, so there could be time constraints....(P5)

Participants compared health promotion in the community to the hospital in terms of the amount of time nurses have with the patients. The following quote reflects the participants' perception on the differences between self-management promotion in the community and hospital:

...I have seen in other areas around the community because they get more time with the patients I would say, they are much better at kind of, I think it's just having time, they are much better at kind of asking the patients if they actually do understand because they see them a lot more, whereas in hospital they are kind of in to resolve that certain issue you give them bit of education then they go home and you don't see them again.....(P4)

Lack of effective communication: The way information is disseminated to patients sometimes acted as a barrier to patients adhering to recommended self-management advice. Creating a good nurse-patient relationship with patients and recognizing individual learning needs of patients were considered vital to empowering patients to self-manage.

The ability for the nurse to create a therapeutic relationship with the patient was identified as important in order to give patient information and education they need to self-manage. This included being empathetic and having an honest interest in the patient. P1 described her views on having a trustful relationship with patients and showing interest in patients concerns:

...I think you can be saying all the things you need to say but if somebody doesn't feel you are being genuine, if you are really think about them as a person, if you are not talking about it in a sensitive way, if you are not explaining it in a language they can understand, em if you approach the subject as if well what I talk about smoking, it's really bad for you, it's terrible you smoke, just the tone and how you go about speaking about it.

P1 discussed using a non-judgemental approach to encourage good life style choices with patients:

....I have seen many nurses very obviously being critical of patients and their choices and I think that ruins the therapeutic relationship and it puts up a barrier so that the next nurse who maybe got a great stance on things just comes up against this wall a patient has created.

Participants discussed the issue of health literacy and the importance of nurse educators giving information to the patients' level of understanding:

....a lot of people won't really understand all the different systems in the body and so you really need to go right down to the basics which I think why nurses are so important because I find a lot of doctors find it difficult to dumb things right right down.....(P4)

Illness Perception: Student nurses felt patients' perceptions of their illness had an impact on their willingness to make behavioural changes and this in turn determines their adherence to self-management. Participants felt that all patients had their own views of their illness which included beliefs of its severity and the impact the illness will have on their everyday lives. They expressed the positive influence on clinical outcomes when patients perceived their condition as controllable therefore engaging in managing their condition.

"I think the kind of more positive they are about the outcome and the outlook of the illness probably the more likely they are to stick to self-manage and want to self-manage..."(P3)

P1 discussed how a patient underestimating the severity of their condition could affect their motivation to make healthy lifestyle changes and self-manage.

...well I do think it is important for people to understand how severe or critical that something has happened is significant and not just had a cold, more than that has happened to them.

P2 discussed how a patient's uncertainty about their diagnosis and perception of their illness impaired their understanding of their condition and therefore reduced their motivation to change their lifestyle or behaviour and prevent complications:

“...if you get diagnosed like with a long term disease, it is hugely important about your disease to know if you are feeling different, why that might be or like complications that can rise and how to solve them because a lot of things like really can be damaging to a patient if they don’t know about their disease...”

Participant also discussed how important it is for nurses to be aware of patient’s perception of their illness in order to correct any misconceptions patients might have and tailor the appropriate lifestyle changes to each individual. However, some participants felt some patients understood the severity of their condition but thought it was too late to make changes as exemplified by P1:

“...I would say people think well it’s too late, its happened now em you know there’s not really much you can do for me that gosh, I have been doing that for 30 years or I am rubbish at cooking so I think it is starting making the small changes with them.”

Health Promotion

This theme highlights factors student nurses felt would facilitate promotion of self-management in patients and help nurses to integrate the promotion of self-management into their daily practice. The emerging sub themes were providing patients with access to appropriate sources of further information in terms of leaflets and follow up support, positive reinforcement and nurse education.

Resources: The majority of student nurses indicated that more resources in terms of leaflets, booklets and support from health professionals were needed in order to engage patients in self-management and to support nurses’ health promoting nursing practice. Written materials were seen as important to reinforce verbal information given to patients, however the frequency with which they were identified as important to self-management could be linked to student nurses viewing promotion of self-management as mainly provision of information to patients about prevention of illness and lifestyle related issues. In the following excerpt P1 and P3 felt it was important that patients received literature to support them through their recovering period and to facilitate nurses in their health promotion role.

“What support is available to them, GP, nurse, community nurse, community groups, sign posting to NHS choices website, em, and signposting them to legit website where they are going to get some help and information...”(P1)

Although participants identified resources as being important to facilitate the promotion of self-management in patients, a majority of them highlighted the need for personalising information given to patients.

“...there could be someone there communicating with them directly, perhaps sometimes written word doesn't really go over as well, so I think person to person”. (P5)

In addition to written and electronic resources, participants felt the support of health professionals and peer support was essential for patients to continue adhering to recommended self-management advice. The need for patients to have support from health professionals was explained by P4:

“.....I think if someone is left a week or two post discharge without any input I think they can quickly slide into not managing it properly and then they might not be taking tablets properly and they might probably end up straight back into hospital”.

Positive reinforcement: A view expressed by majority of participants was the importance of using positive reinforcement to encourage patients to self-manage. Goal setting and action planning was highlighted by participants as a way of improving compliance to self-management and in turn facilitating patients goal attainment.

...kind of feeling like positive reinforcement like they are getting something out of it em like they have got a goal towards, they're not just doing something for the sake of it, that they actually feel better when they take these tablets like their breathing is better that kind of thing. (P4)

It was highlighted by some participants that when patients know the benefits of adhering to self-management, they were more likely to adhere to recommended lifestyle changes advice.

"..I think sometimes giving the benefits, for instance, if a patient does their own injection they have their own time, they don't have to wait for district nurse to come and then complain about how they are coming at different times in the day, so I think laying out the benefits of self-management could help". (P5)

P5 thought if patients saw the positive results self-management could yield, they would be more inclined to engage in self-management:

I think perhaps having examples of people who have self-managed and have improved, maybe patients talking to other patients em.....just some kind of evidence that em that the outcome could be better if they do self-manage.

Nurse Education: Participants felt that they had inadequate educational preparation to practice health promotion and all indicated a desire for further training. P1 discussed the need for more education in university before going into clinical placement:

"....I think there is definitely a better way of going about talking about self-management goals with patients and maybe that is something that needs to be addressed in the undergraduate course..."

Similarly, P4 supported the need for education, and discussed how this may have positively impacted her promoting self-management in patients while on clinical placements:

"I was in cardiology for placement and I really enjoyed that but I think maybe if I got a little bit more earlier on about all this different aspects of self-management of coronary heart disease, I maybe would have been better".

A lack of understanding of the difference between promotion of self-management and giving information was also highlighted by student nurses. P3 discussed how some nurses felt medical education was enough to promote self-management in patients:

"..I think either nurse might not understand all about what it is like to self-manage an illness so they don't know what advice, they only really know the medical advice to give in terms of they know about taking medication or whatever but don't necessary know everything about the self-management side of things...."

P2 discussed the effect education on health promotion had on their confidence when giving patients health promotion advice:

“....I think especially for when you are qualifying maybe if you don't have a lot experience doing patient education and health promotion then you go out and do feel less confident but I think that could be an area to focus on”.

Discussion

This qualitative study explored student nurses knowledge on promotion of self-management and informational needs of patient with coronary heart disease.

Student nurses had a good knowledge of risk factor of CHD and the importance of promoting self-management but also highlighted reasons why it is not adequately implemented in clinical practice. This finding is congruent with previous literature (Badir et al, 2014; Wu et al, 2011) which indicates that student nurses have an overall general knowledge of CHD. Participants were collectively aware that patients needed to self-manage their condition to improve their health and reduce re-occurrence of illness and mortality.

Participants discussed information patients needed post coronary heart disease diagnosis in terms of the severity of the condition, prognosis, and lifestyle changes needed to be made. This is supported by previous research from Astin et al (2008) where patients reported wanting information about myocardial infarction, actions to take if they developed symptoms, and also details on the severity of their condition.

The importance of promoting behavioural changes in patients emerged as an influential component when student nurse participants explained their understanding of self-management and its importance. Time was perceived as both a barrier and facilitator of effective self-management depending on the context of the situation. This reflects findings from previous literature by Casey (2007) and Wu et al (2011) who agreed that some nurses fail promote self-management due to the lack of time and surplus workload. In the hospital setting, time was seen as a barrier, while in the community time was seen as a facilitator of effective self-management. Participants felt due to the difference in roles of community and acute nurses, nurses in the community seemed to have more time with patients which facilitated their role as health promoter compared to nurses who worked in the acute setting.

Health literacy was a factor that influenced patients' illness perception or beliefs and could contribute to non- adherence, therefore it is important nurses explain information to patients based on their understanding. Lijeroos et al (2011) found that patients experienced difficulty in

understanding what was said during medical ward rounds and depended on the nurses to explain it in an understandable way.

Previous studies in chronic care have shown empowering patients through patient-centred communication enables patients to build a sense of responsibility for their own health (Astin et al 2008; Liljeroos et al, 2011). The importance of patients being proactive in their care and making decisions together with the nurse was also emphasized in this study. Majority of the participants discussed nurses' lack of empathy and disinterest in their role as health promoters. This finding is consistent with Liljeroos et al (2011) which showed that patients required nurses to show empathy when discussing behavioural changes.

Another key finding of this study was the impact a patient's perception of illnesses had on the likelihood of them adhering to recommended lifestyle changes. Study participants discussed the need for patients to feel in control of their illness to drive self-management. Previous studies (Astin et al, 2008; Mosleh et al 2014; Dullaghan et al, 2014) have shown that initial misunderstanding of diagnosis impacts patients' likelihood of to comply with recommended lifestyle changes. However, some participants felt that patients understood the risk factors of coronary heart disease and how they impacted the body negatively, but failed to engage in lifestyle changes due to perception of the severity of the condition.

The NMC (2010) describes health promotion as a fundamental skill nurses need and highlights the importance of being proficient in the role. Health care professionals are in the best position to encourage patients in participating in a self-management programme (Cicutto & Brooks, 2006; White, 2011). Lack of adequate educational preparation in clinical placements and university to promote self-management was highlighted by student nurse participants. Casey (2007) and Albarran et al (2014), for example, highlighted the need for continuous nursing education on cardiac disease and the promotion of self-management in patients. In this study, participants found knowledge of nurses had a strong influence on patients trust in the nurse. Knowledge is a basic competency in patient education and has been found to be necessary for the development of a professional relationship and building trust between health professionals and patients.

Ongoing support and continuity of care from health professionals to facilitate compliance to lifestyle changes was highlighted as important in ensuring compliance to behavioural changes. This findings support the findings of Cordon and McCarthy (2006) and Svavarsdottir et al (2014) which reported patients lacked support and empowerment from staff post discharge and therefore stopped making lifestyle changes.

The use of positive reinforcement was also identified in this study as beneficial to encourage and promote self-management in patients. Participants highlighted the importance of patients setting achievable goals when adhering to recommended lifestyle changes. This finding reflects the results presented by Sol et al (2011) who similarly reported that patients setting health goals and accomplishing them improves self-efficacy which in turn facilitated self-management of cardiovascular lifestyle.

Study limitations

Convenience sampling was used to recruit participant in order to obtain sample size in a feasible way. In this study, seven nursing students were recruited; five were third year students and two were fourth year nursing students. Although there was unequal ratio between third and fourth year students, data saturation was reached which didn't compromise findings.

Recommendations

This study identified several recommendations for the advancement of self-management in health care. These recommendations are listed below.

Research

- This study has identified that further research needs to be done in strategies to improve patients self-management.

Education

- It is clear from the findings of this study that pre-registration health care students may benefit from more education on patient self-management through education from a theoretical and practical perspective.
- Self-management education maybe useful to health professionals post registration. This may increase their knowledge about health behaviours and increase their confidence in the delivery of health promotion to patients.

Practice

- Self-management has positive implications for coronary heart patients. Therefore, the promotion of self-management should be incorporated into clinical practice in primary through to tertiary sector of health care.

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