HEALTH PROMOTION TOOLKIT FOR HEALTH PROFESSIONALS IN SAUDI ARABIA

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ABSTRACT

Health promotion is an effective way to change and transform improvements in health. By enabling people to change their behaviour and improve health the outcomes from diseases and illnesses can be improved.

This toolkit gives health professionals in Saudi Arabia the information and change tools needed in managing a health promotion project. It is also a guide through the project process including ways to implement and evaluate change using a practical approach. This includes:

- Practical ways of scoping work initially and building a business case
- Ways of broaching the subject in practice
- Ways of getting change into practice in a cost effective manner
- Outlining tried and tested methodologies
- Looking at ways of reframing work currently in existence to re focus on an issue

Ultimately this toolkit is all about making a difference.

Learning Outcomes from this toolkit

By using this toolkit health professionals in Saudi Arabia will be able to:

- Have an understanding of the basic concepts of health promotion
- Know the most recent Population demographics of Saudi Arabia
- Recognise the different models used in promoting health
- Know how to plan a project
- Know how to establish a team for a project
- Know where to find resources to help with a health promotion project
- How to obtain a baseline profile and needs assessment for a project
- How to use tools such as a values clarification and force field analysis
- Develop a business case for a health promotion project using a simple framework
- Measure outcomes from a project
- Understand how to evaluate a project
- Be able to reflect upon and identify key areas of learning from a project

Population demographics of Saudi Arabia

As of 2010, KSA has a population of approximately 27,250,000 with an annual growth rate of 2.65% in the past 5 years. 65% are concentrated in 3 regions (Riyadh, Makkah and the Eastern Region). The population is highly urbanized at 82%, (compared to 49% in the rest of West Asia) with a gross national income per capita of $24,020 (compared to only $5,880 in the region). There is a 24% predominance of males with a M/F ratio of 124/100. The fertility rate is higher than average - 3.03 per woman (compared to the global rate of 2.5). The population is composed of 69% Saudis and the remainder international migrants. Migration has been increasing by 2.8% annually, though the rate of increase has declined since the previous decade.

Age profile

The country has a fairly large youth population with 30% below the age of 15 (global average 27%) and 48% below 25. The senior citizens (> 60 years) are only 8.1% (compared to 11% global).

Mortality rates

Life expectance in KSA is higher than average at 72 (M/F 69/75) compared to only 66 in the rest of the region. Adult mortality is lower than average at 154 per 1000 adults age 15-59 (compared to 188 regional and 176 global) and only 21 at the under 5 yrs age (compared to 72 in the region). Maternity mortality is extremely low at only 24 per 1000 (compared to 320 in the region).

Common causes of death

Common causes of death in children under 5 are primarily prematurity (31%) and congenital abnormalities (19%), with pneumonia (10%) and injuries (9%) following suit.

Among children and youth (0-14), 53% of the causes of death are communicable, maternal, perinatal and nutritional conditions (of which 21% have Infectious and parasitic diseases, 16% have Respiratory infections and 61% die from perinatal conditions), non-communicable diseases at 30% (of which 55% have congenital anomalies) and injuries at 15% (of which 39% are road accidents).

In the adult population (15-59) the distribution drops to 1.8% for communicable, maternal, perinatal and nutritional conditions (of which 33% is from respiratory

infections), rises to 64% for non-communicable diseases (of which 16% are malignant neoplasms and 62% are cardiovascular diseases) and rises to 31% for injuries (of which 40% are road accidents).

In the senior population (>60), we find 8% with communicable, maternal, perinatal and nutritional conditions (of which 41% die from infectious and parasitic diseases, 56% of respiratory infections), 89% die from non-communicable diseases (of which 10% have malignant neoplasms, 10% diabetes mellitus, 62% cardiovascular diseases) and only 2% die of injuries.

Smoking prevalence

Despite negative health consequences and religious prohibitions, around $160 million is used for purchase of tobacco annually. Tobacco is not grown in KSA and is the 4th largest importer with 15 billion cigarettes annually.

Due to varied criteria there is a broad range of studies concerning the current use of tobacco. The total prevalence ranges between 2.4-52.9%. Among adolescents current smoking ranges between 12-29%. According to the GYTS (Global Youth Tobacco Survey) in KSA, 34.5% of students have smoked but only 20% do so regularly. Among adults, 11.6-52.3% currently smokes, but among the elderly only 25% are current smokers. Total smoking among male is significantly greater than that of females, though due to social stigma there may be under-reporting.

Tobacco is used in many ways; the most important being jirak (for the shisha or hookah), cigarettes and shag (for roll-your-own cigarettes). There are relative high percentages of shisha smokers due to a common belief that it is less harmful than cigarettes.

Over 7 in every 10 smokers want to quit with health and religious considerations were the most important reasons.

In 2005 Saudi Arabia ratified the WHO Framework Convention on Tobacco Control – which places it in the position of banning tobacco advertising among other restrictions. According to WHO data, KSA has a significantly lower percentage of smokers (as of 2006), than in the rest of West Asia region.

Deprivation scores

There is hardly any data available on poverty and income distributions in the country, as the government is reluctant to issue information. According to the UN 2011 Human Development Index, which measures 3 basic factors (a long and healthy life, access to knowledge and a decent standard of living) – Saudi Arabia's HDI value for 2011 is 0.770—in the high human development category—positioning the country at 56 out of 187 countries and territories.

Between 1980 and 2011, Saudi Arabia's HDI value increased from 0.651 to 0.770, an increase of 18.0 per cent or average annual increase of about 0.5 per cent. Between 1980 and 2011, Saudi Arabia's life expectancy at birth increased by 11.7 years, mean years of schooling increased by 3.6 years and expected years of schooling increased by 0.6 years. Saudi Arabia's GNI per capita decreased by about 33.0 per cent between 1980 and 2011. Saudi Arabia's 2011 HDI of 0.770 is above the average of 0.741 for countries in the high human development group and above the average of 0.641 for countries in the Arab States.

What is Health Promotion?

Health promotion and health education are frequently used interchangeably however there are some subtle differences. These differences underpin the approaches used in implementing a health promotion project.

Health promotion is the process of enabling people to increase control over and improve their health. It moves beyond a focus on individual behaviour towards a wide range of social and environmental interventions (World Health Organisation).

Health education is the process of educating people about health through a series of planned learning processes. This is defined by the World Health Organisation as, "consciously constructed opportunities for learning involving some form of communication designed to improve health literacy, including improving knowledge, and developing life skills which are conducive to individual and community health."

Therefore the difference between a health education and a health promotion approach to a project is rooted in enabling people to change for themselves and taking a more structured educational approach. When a person is enabled and empowered to improve their health the change is likely to be more sustainable however there is also a need for health education.

Having an understanding of the concepts around health promotion is a vital part of the project plan as it impacts on the approach and eventual outcome.

Approaches to Health Promotion

There are several participatory models of health promotion. These were described by Ewles and Simnett (2003) and vary in the degree of involvement. There are five models which are educational, behavioural, medical, client-centred and societal.

An educational approach is where participants are given information to enable them to find out the benefits and challenges of the health initiative themselves. This is sometimes considered paternalistic (Crafter 1997). Some theorists (Crafter 1997) argue that this approach cannot be used in isolation with health projects such as smoking in pregnancy. This is because a health professional would know this is detrimental to health with an element of risk taking and would need to include other interventions.

The behavioural change approach to health promotion uses a number of techniques to facilitate changes in beliefs and attitudes towards a health issue. This works on a cyclical mechanism from unawareness that there is a problem through to motivation to consider changing behaviour, commitment to changing, actually making the change and finally the maintenance phase. It is important that the concept of empowerment is promoted to enable clients to maintain behaviour changes on a long term basis.

Medical models of health promotion are those where professionals decide what is best for an individual and aim to be disease and illness free (Ewles and Simnett, 2003).

A client centred approach to health promotion is where the client is facilitated to consider all things which may be beneficial to health. This may mean they choose some interventions over others.

Societal approaches to health promotion occur when the whole of a society and not one individual changes their behaviour. Examples include the banning of smoking in public places in England.

Social marketing is another concept aligned with health promotion. This allows marketing techniques to be

used in an attempt to change behaviour for the social good. An example might include a survey of teenagers concerning their attitudes to sunbathing. In an attempt to reduce the incidence of skin cancers social marketing approaches will then adapt the interventions to suit that particular audience.

Planning a Project

It is essential to spend time planning any project and to consider the various stages involved. This will include deciding what area to focus on and the approach used. All too often people rush into a new project without thinking about the stages that are required and the potential impact. Take time to talk about and consider each stage of your health promotion project.

Why Plan a Project?

Setting aside time to plan a health promotion initiative is one of the most important stages in the whole project. There are a number of good reasons for considering this part of the project very carefully:

- Finding out what the current situation is and why this project is actually necessary.
- Establishing the team.
- Making sure there is clarity about the aims and objectives of the project itself both with the team and the community
- To decide the approach being used and ensure that project workers are clear on the type of methodology being used.
- To assess and build in the time needed to plan and actually deliver the project.
- To consider the financial and time resources and how they might be used
- To establish how the project will be recorded in terms of reporting, writing reports and sharing information.
- To plan the evaluation of the project which incorporates what worked well, what did not go as well as it could have done and what lessons were learned.
- To think about what outcomes can be measured how to demonstrate how the project has made a difference so that this can be built into the plan itself.
- To ensure there is a clear and structured plan that can be continued should someone leave the project.

Team Members

It is important to have a clearly defined team at the beginning of a health promotion project. This should include:

- Project leader or project manager
- Administrative support
- Specialist adviser
- Links to existing health care services likely to be impacted by the change or where clients generally go. This might include an outreach clinic or centre for women's health issues.
- Public health
- Volunteers who may be able to help with distribution of materials.
- A lay person from the area being targeted. For example if a particular district is being focused on then someone such as a community leader who can facilitate access and who can advise on local issues is invaluable. If it is a focus on a disease such as asthma, having a patient or career involved can bring a different perspective to the project.

Working in partnership with others is a vital part of any health promotion project. This may include community workers, a hospital, schools, a charity and others relevant to the project.

If your project involves several organisations it is important to have access to someone who can make a decision on behalf of the organisation. This is particularly important if a change in practice is required. Many projects are delayed because the people who can make the decision about an initiative are not the people in the meeting.

There is nothing wrong with starting small with a group of interesting community members for example. It is often from small beginnings like this that great changes occur.

Baseline Profile and Needs Assessment

Before considering a health promotion project it is important to ensure there is enough information about the community where the initiative will take place. A baseline review will address this and may also reveal any key gaps or inequalities that the project could help improve.

Perhaps there is already a profile on the health needs and status of the community. Does it need updating? Are there any gaps in relation to your project?

If there isn't a profile or assessment of the community the type of data to review and present might include:

- Population demographics
- Age profile
- Mortality rates
- Common causes of death
- Smoking prevalence
- Deprivation scores
- Any key cultural issues
- Types of facilities for health and education
- Access issues to healthcare

From the profile you may be able to identify a specific area to focus on or an area where there isn't any health promoting intervention. This type of information becomes essential in building a strong business case and demonstrating the rationale for doing the project. An example may be statistics on infant mortality in a deprived area which may indicate a need to introduce some form of health promotion initiative.

When the project has finished you will need to be able to demonstrate that you have made a difference and by having a baseline to start with the changes can be identified more easily.

When considering a needs assessment there are four types that are relevant to health promotion. These are felt needs, expressed needs, normative needs and comparative needs.

Felt needs are things that people say they want or feel need addressing.

Expressed needs are shown through the number of people using a service. For example a waiting lit for a child development class may indicate that the need is greater than thought.

Normative needs are generally based on the opinion of an expert and might include advice on vaccination programmes for a population.

Comparative needs are those identified by comparing one area with another. This might include an area with a higher mortality rate from malaria than another or one where there are more obese people than in another district. Part of the process of promoting health is to share

the results of a baseline profile and needs assessment with the community. This not only helps articulate why a particular intervention should be prioritised but can also stimulate discussion on ways to improve an area or problem.

Prioritising Needs

Once a baseline and needs assessment has been established there may be several issues that come to light. It is then important to focus on the one that will be most beneficial and is achievable. Limitations on resources may mean that not everything can be achieved immediately or at all.

The following framework may help in prioritising the focus of the project:

- How serious is the issue or problem?
- How many people are affected?
- How easy is this to change?
- How many people consider this a priority?
- What resources are needed to change this problem? What staff, equipment and maintenance coasts?
- What options are available for solving this issue?

Before proceeding with a project it is often helpful to check out the following questions which also act as prompts for you:

- How many people identified the problem as a priority? Were they community members, clinical staff, or other stakeholder?
- Have people and organisations been consulted about this project?
- Have people received adequate details about the problem, issues and possible solutions?
- Has the subject been reviewed adequately (by literature review, needs assessment etc)?
- How was information fed back to the community from the various reviews?
- Does the project team have the information it needs as a baseline?

Force Field Analysis- clarifying the project objectives

A force field analysis is often helpful in looking at all the pressures involved in making a decision. It looks at all the pros and cons of making a change.

The way in which a force field analysis works is that the project manager describes the initiative in the middle of the analysis. Group members identify the issues that will work in its favour and also those challenges that may hinder achieving the objectives.

Each team member considers each issue and gives it a value: 0 = not relevant
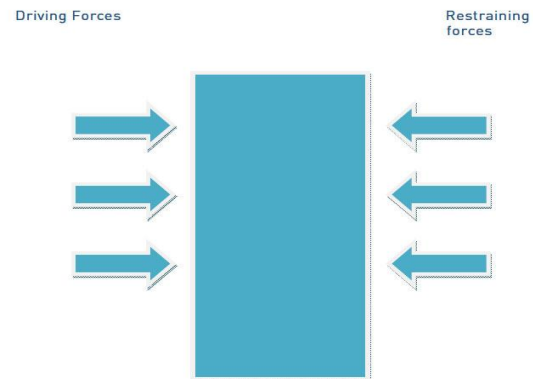
1 = low force

2 = medium force

3 = high force

Scores are added up and the factors with the highest score should receive the most attention. Plans should be built into the business plan on how to overcome restraining issues.

Example: (**Figure 1**)

Figure 1: Force Field Analysis- clarifying the project objectives

Building a Business Case

Developing a business case to conduct a health promotion project is an essential part of the initiative and helps clarify the purpose. It is also a tool for justifying the resources required such as staff and equipment and should clearly state any benefits to stakeholders and funding rganizations.

Being clear about measurable outcomes and the evaluation stage is a key part of the business plan. Anyone interested in funding the project will want to know how it has made a difference.

When developing your business case be sure that you have the facts on the following:

- Purpose of the project
- Aims and Objectives
- Who is involved
- The target group or population and why
- What methods are being used
- The timeline
- Accurate costs of staff and equipment resources
- Outcomes measures and how data will be captured
- The evaluation
- How the project will make a difference

The template on **table 1** acts as a guide in completing a project plan and a structured business case.

Table1: The Project Business Case

BUSINESS CASE TEMPLATE- HEALTH PROMOTION PROJECT	
NAME OF THE PROJECT	
PROJECT SUMMARY (WHAT ARE THE KEY AIMS AND OBJECTIVES)	
BACKGROUND TO THE PROJECT- why is it necessary, what are the key issues and gaps to be addressed?	
WHO ARE THE TARGET GROUP IN THIS PROJECT?	
AIMS AND OBJECTIVES	
WHO ARE THE COLLABORATIVE PARTNERS IN THIS PROJECT- organisations, charities, NGOs etc	
WHERE WILL THIS PROJECT BE CONDUCTED – what is the setting	
PROJECT OUTLINE- include a description of key activities and timelines	
HOW WILL THIS PROJECT BE EVALUATED	
WHAT ARE THE KEY OUTCOMES FROM THIS PROJECT? HOW WILL THEY BE MEASURED?	
WHAT MECHANISMS HAVE BEEN INCLUDED IN THIS PROJECT TO ENSURE SUSTAINABILITY?	
BUDGET- list resources needed for this project with costs. Include a total amount.	
WHAT ARE THE KEY RISKS ASSOCIATED WITH THIS PROJECT? Identify the risks and the actions taken to mitigate them	
YOUR ORGANISATION- give details of the services and resources available to help with this project. Include team members and contact details.	
SIGNATURES OF PROJECT SPONSOR (CEO of host organization or medical director) AND PROJECT MANAGER	CHIEF EXECUTIVE/ MEDICAL DIRECTOR PROJECT MANAGER
DATE	

Examples of Health Promotion Initiatives

There are many types of health promotion initiative that are simple to do and yet make a big difference:

- Establishing a smoking ban in a public place
- Using social marketing to establish what type of health message would appeal to teenagers and developing material to prevent sunburn
- A project to raise awareness of salt content in food
- Encouraging healthy cooking in a deprived area
- Access to women only exercise programmes
- Working with schools to develop health promotion messages
- Schemes to enable communities to grow their own fruit and vegetables
- Projects to raise awareness of coughing and spitting as a health hazard
- Establishment of a child health outreach clinic and health promotion facilities in an area where there was not one previously and infant mortality was higher than in other areas.
- Projects to encourage regular dental health checks
- Using social media
- Interactive websites
- Your project........

Applying For A Grant

There are a number of organisations and schemes that offer research and development grants to fund health promotion related projects. Having funding is a key enabler in the success of health promotion projects. Once finances have been achieved for a project and it is successful it is usually easier to obtain more funds for other initiatives.

When considering an application for project funding there are a number of things applicants should do:

- Make sure the grant scheme is relevant to your project and that your scheme meets the criteria. There is no point applying for funding if the specifications of the grant process are not met.
- Read the application form thoroughly and ensure you have all the information required to complete the questions.
- It is often helpful where a contact number is supplied to ring the funding organisation and discuss the proposal beforehand. Some grant schemes insist on this practice.
- Making a duplicate copy of an application form is helpful for draft purposes and refining the final application.
- Make sure that any additional information required is available and if necessary attached to the application. It is also important that if an application stipulates that no additional details should be submitted that this is also followed.
- If you require an executive signature to the application be sure to build in sufficient time to the application process so that the deadline can be met as some executive directors require several days notice in order to read the application.
- If your bid is not successful find out who was so that you can learn from them for future funding applications.
- If you are successful make sure you can meet the conditions of funding before accepting.
- Don't forget to thank everyone who helped with your successful bid.

Top Tips for Good Project Management

Being able to manage a health promotion project is a skill in itself and can be challenging.

Begin by writing down all the key stages of the project and then ordering them. Think about timelines and who will be responsible for achieving them.

Having a project dashboard is a really useful way of keeping an eye on progress and as a reporting mechanism to the various interested parties. Status can be recorded using a traffic light system of green for on target, amber for slight challenges and red for serious problem or not commenced. See **table 2**

Table 2: Example of a project dashboard

TASK	PERSON RESPONSIBLE	COMMENTS	STATUS
Organise a meeting of community midwives	A B	Date and venue confirmed	■
Ask mothers what ante natal information they would find helpful	CS	In progress-questionnaires and interviews	■
Develop a DVD on health promotion in ante natal care	AB	Not started-waiting for information	■

Having a project management group is an essential part of any initiative so that the issues can be overseen and discussed and there is some structure to the initiative.

Recording all the processes and decisions in an audit trail is another example of good practice in project management. This is an essential part of identifying where things may have gone wrong as well as those areas of good practice. It is also where any lessons learned in the practical field of project management are learned.

Remember to acknowledge and thank those involved in the project.

CASE STUDY 1- THE DONCASTER COUGH CAMPAIGN

In England 35,000 people are diagnosed with lung cancer each year and the five year mortality rate is just 7% compared with 16 % in other countries. Early recognition and diagnosis is essential in improving the mortality rates.

In Doncaster a public health team used social marketing to establish what might work in the profiled age group and then collaborated with a media company to develop some education materials for the public. Materials the public thought would be noticed were used. This included messages about persistent coughing on shop bags from the pharmacies in the city, and a microchip was placed in a bus shelter which made a coughing noise when a member of the public walked into it and had an accompanying poster. Eleven general practitioner areas were targeted in Doncaster during the campaign. During the first six months of the campaign the project team saw an increase in presentations to general practitioners where the campaign was targeted. Hospitals also saw a significant change in the presentation of lung cancer which changed from 11% presenting with stage 1 and 2 lung cancer to 19% presenting with stages 1 and 2. The findings were encouraging in that they clearly showed a change in behaviour which could lead to a better prognosis from lung cancer.

Measuring Outcomes

Ensuring the key outcomes- or how you can show a difference has been made is vital in demonstrating the effectiveness of a project. This is particularly important if work is to be replicated in another area or where there are conditions of funding. Therefore being clear about the outcomes and how they will be measured is an essential part of the project.

For each outcome identified the project team need to be clear about

- whether the data is already in existence
- who can collect the data
- how it can be collected
- how reliable it is likely to be
- how data can be validated or rechecked
- whether there are any restrictions on access to the data and how these can potentially be overcome

There will be both short term outcomes that can be realised very quickly such as uptake of a women's health screening clinic and other outcomes that may tale a year or more to appreciate such as the reduction in mortality from coronary heart disease as these are published based on other contributing forms of information.

Outcomes can be measured from a quantitative perspective, and other forms include qualitative aspects such as feedback from clients.

Examples of measurable outcomes include:

- mortality rates
- wound infection rates
- reduction in body mass index
- incidences of infant dehydration seen on a monthly basis
- number of smokers
- screening uptake for mammography
- crime rates

Sustainability and Sharing Knowledge

Your health promotion project will have created some new learning and interesting developments that can be shared. It is very important to write a report of the project with the key findings and lessons learned. This should be presented to the local community and also to the project sponsor.

Publishing in a peer reviewed journal and presenting the work at a conference is another way of raising the profile of the work and sharing the knowledge. Is your project ready to be rolled out to other areas? If so what would you do differently as a result of the initial project? Is this a sustainable project? If so what other resources are required?

One example is of a walking group designed to help women recover after surgery. All the women maintained or lowered their body mass index after the programme and in order to keep it running when the funding ran out the women run a charity sponsored walk each year which raises enough money for a trainer.

Have you considered making the project materials available to others so that health promoting ideas can be shared even more rapidly? Perhaps others have projects that you could share with them. Some projects can be uploaded onto websites and spread using social media.

If your project has been a success it is very important to share the knowledge and innovation.

Case Study 2

In Sub Saharan Africa the pork tapeworm Taenia Solium is a widespread problem in areas with poor sanitation and basic living facilities. People eating pork were at risk of ingesting the tapeworm parasite and developing eye, muscle and intestinal problems as well as epilepsy and in some incidences death. Non pork eating humans were also at risk as the parasite can be spread by a carrier preparing the food. The health promotion team worked collaboratively with pig farmers to provide knowledge and ways of combating the disease. This work in collaboration with veterinary scientists also improved animal husbandry

and was found to reduce the prevalence of the tapeworm parasite.

An added bonus of this project is that local farmers wanted to work with health workers to look at other ways of preventing disease spread between animals and humans, including improving hygiene.

A Framework for Reflection

During and after a project it is important to think about what went well, any issues that could have been done differently and what the key learning is from the initiative. Some of the lessons learned will be useful when planning projects in the future, and for sharing with other teams.

Learning Frameworks

When reflecting on a project some of the questions that Individuals might want to ask relating to their personal learning and development are:

What have I learned from this project that develops or maintains my professional knowledge or competence?

What do I know or can do now that I couldn't do before the project?

Is there anything I don't understand or need to explore further? Do I need to read about something to understand more about what I have learned?

What else do I need to do to extend my knowledge in this area?

How could I achieve the above learning needs?

Reflecting on action

Thinking about the project itself it is important to capture the key lessons learned during the whole process.

What went well?

What did not go so well and why?

If I were to do this project all over again is there anything I would do differently and why?

What good practice can I share with others?

BIBLIOGRAPHY

1. Crafter H (1997). Health Promotion in Midwifery; Principles and Practice. London, Arnold.
2. Dhillon, HS. and Philip L. Health promotion and community action for health in developing countries.WHO, Geneva, 1994
3. Doncaster Cough Campaign. http://www.doncaster.nhs.uk/news-events/campaigns/campaigns-listing-page-3/[Last accessed /10/ 2011].
4. Ewles L, Simnett I (2003). Promoting Health: A Practical Guide. London, Bailliere Tindall
5. Kotler, Philip and Gerald Zaltman. Kotler, P. & Zaltman, G. (1971). Social marketing: an approach to planned social change. Journal of Marketing 35, 3-12.
6. Lewin K (1951). Field theory in Social Sciences. New York: Harper and Row
7. McKenzie-Mohr, D. (2000). Fostering sustainable behavior through community-based social marketing. American Psychologist, 55(5), 531-537.
8. Naidoo J (2009). Foundations for Health Promotion. London, Bailliere Tindall,
9. Ottawa Charter for Health Promotion. WHO/HPR/HEP/95.1. WHO, Geneva, 1986
10. World Health Organisation (1998). Health Promotion Glossary. WHO/HPR/HEP/98.1. WHO, Geneva.
    Websites
11. www.mindtools.com free project management tools, [Last accessed in 17 /07/2012]
12. www.healthpromotion.ie ideas for health promotion, [Last accessed 23 /06/2012]
13. http://info.cancerresearchuk.org/spotcancerearly/naedi/information on spotting cancer early. [Last accessed in 19 /02/2013]