

## Original Article

# Knowledge on Health Promotion among Public Health Midwives in a District in Sri Lanka

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## Abstract

### Background

The Ottawa Charter defines Health Promotion as the 'process of enabling people to increase control over, and to improve, their health'. The National Health Promotion Policy recognizes health promotion as an efficient and cost effective approach to promote health in Sri Lanka. The Public Health Midwife (PHM) is the grass root level health worker responsible for promoting the health of communities in Sri Lanka. Their knowledge regarding health promotion has not been assessed. The main aim of this study was to describe their knowledge on health promotion and associated factors.

### Methods

A cross sectional descriptive study was conducted among all PHMM (N=364) in the Kandy District who were eligible, using a self-administered questionnaire. Level of knowledge was based on scores obtained for responses to close ended questions and case scenarios.

### Results

Knowledge on health promotion was 'poor' among 238 (65.4%). Incorrect labeling of other activities as activities using a health promotion approach was common 257(70.6%). Training programmes 285(73.9%) were the commonest source of knowledge while 95(26%) were never trained on health promotion approach during their career. The factors that were significantly associated with a level of 'good' knowledge on health promotion in multivariate analysis were; experience in the public health field less than 20 years ( $p=0.012$ ), participating in training programmes on health promotion ( $p=0.03$ ) and experience in implementing health promotion programmes ( $p=0.04$ ).

### Conclusions

The study concludes that PHMM in the Kandy District have a 'poor' level of knowledge on health promotion and recommends increasing training opportunities and improving opportunities for application to improve the situation.

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## Introduction

The Ottawa Charter defines health promotion as “the process of enabling people to increase control over, and to improve, their health”<sup>1</sup>. In the recent past, health promotion had become a popular approach among health and non-health professionals concerned about cost effective strategies to promote health in communities. The National Health Promotion Policy of Sri Lanka recognizes health promotion as an efficient and cost effective approach to promote health and a prospective solution for issues mentioned above<sup>2</sup>.

Sri Lanka has a devolved health system in which the line ministry provides the technical guidance to the provincial health ministries that are responsible to the health of the populations of their respective provinces. The Public Health Midwife (PHMM) is the main grass root level health care worker in Sri Lanka who promotes health of communities. Over past decades, their range of duties has evolved from narrow attending of child birth to a broader range of promoting maternal and child wellbeing<sup>3</sup>. A survey done to identify essential public health functions of field health staff in Sri Lanka, indicated that PHMM accept that health promotion is a function applicable to their work. However they have indicated that the concepts of health promotion were difficult to understand and their competencies were low in implementing health promotion programmes<sup>4</sup>.

The Australian Health Promotion Association identifies knowledge as one of the five core competencies required in any health promotion practitioner<sup>5</sup>. To build knowledge competencies, the existing level of knowledge should be known. No study has assessed the knowledge of PHMM regarding health promotion in Sri Lanka. The main objective of this study was to assess knowledge on health promotion among PHMM in the Kandy Districts and to describe factors associated with knowledge. Kandy District is the region with the highest number of public health field staff in the country<sup>6</sup>.

## Methods

A descriptive cross-sectional study was carried out from June to December 2011. Kandy District. All PHMM employed by the Provincial Health Department for a minimum period of 6 months and not working in field areas designated for training purposes were included. Ethical clearance was obtained from the Ethics Review Committee of Faculty of Medicine, University of Colombo.

A pre-tested, self administered questionnaire was the study instrument. Data were collected either a date of a monthly conference or an in-service training programme and the PHMM were not allowed to communicate to prevent cross-contamination. The content and consensus validity of the questionnaire was assured by a panel of experts who had national and international experience in the field of health promotion and experience in training health workers in health promotion. Questionnaire comprised mostly of close-ended questions with a mix of correct and incorrect statements. The respondents who responded correctly to questions on action area of health promotion and concepts related to health promotion were categorized as having a ‘good’ comprehension that particular action area/concept. Two case scenarios applicable to work areas of PHMM followed by open questions were used to assess application of knowledge.

Analysis of the data was done using the Statistical Package for Social Sciences (SPSS) version 16.0 software. A marking scheme was formulated and a cut off mark that was based on possessing knowledge to the questions on ‘must know’ areas of the theme was used to categorize respondents as ‘good’ and others as ‘poor’ in knowledge on health promotion.

Experience regarding the approach was checked by asking PHMM to mention if they had at any time been involved in any programme using health promotion approach. Those who responded positively were requested to briefly describe the activities within that programme. In the analysis, the activities they indicated were classified into different health promotion action areas and the number of health promotion action areas in the programmes was counted. The expert panel decided that, at least two action areas mentioned in Ottawa Charter should be in the mentioned programme to classify it as one using a health promotion approach.

Socio demographic data, basic training, work experience, language proficiencies and sources and opportunities for learning health promotion were the broad groups of factors assessed for association with knowledge on health promotion. The factors were made into binary levels and were cross analyzed using Chi-squared test wherever appropriate to assess their association. A p value of less than 0.05 was considered significant. Multivariate analysis was done using the binary logistic regression method to identify un-confounded factors significantly associated with knowledge.

## Results

The study included 364 participants with a response rate of 98.4% (364/370).

### Background information of the Public Health Midwives

The ages of PHMM ranged from 27 years to 59 years and the mean age was 43.9 years ( $\pm 8.89$ ). There were 35(9.6%) who had passed their retirement age but were still working as PHMM. The majority 326(89.6%) were married. The commonest highest educational level was passing GCE A/L (245, 67.3%). Of the 21 PHMM (5.8%) who stated that they know how to surf the internet to get information, only 5(23.3%) had access to internet facilities at home or office.

More than 80% (300) had qualified as PHMM before 2004, prior to introduction of health promotion to their basic training curriculum. A majority (266, 73.1%) had got their basic training from the Regional Training Center in the Kandy District. Their period of field experience ranged from 6 months to 33.5 years with a mean of 15.8 years. Around 75% (270) had at least 10 years of experience as a PHM. Service in the current MOH area ranged from 1 month to 32 years with a median of 8.25 years (IQR = 3.75 to 14). The mean population per PHM area was 2934 (SD  $\pm 930$ ) with 662 as minimum and 6900 as maximum values. Seventy two PHMM (19.8%) declared they were covering up another area at the time of data collection and of the remaining 292, 50 (17.1%) stated they performed cover up duties last year. Period of covering up duties ranged from 1 month to 4 years and 9 months, as at the time of data collection. When considering the ability to read English, only 106 (29%) declared their ability as either 'fairly good' or 'excellent'.

### Knowledge on health promotion

From the respondents, 57.7% (270) declared they have either a 'good' or a 'very good' level of knowledge on health promotion and only 10.4% (38) declared their knowledge is 'poor' or 'very poor'. As per the scoring system described above, 34.6% (126) of the study population was categorized as having a 'good' level of knowledge while 65.4% (238) were categorized as having a 'poor' level of knowledge on health promotion.

The responses for some specific questions were considered important as they highlight gaps in knowledge and are described in Table 1.

**Table 1: Distribution of the correct responses for questions to assess knowledge on selected components of health promotion approach**

Component of health promotion approach assessed	PHMMs who responded correctly N(%)
Definition of health	339(91.5)
Definition of health promotion	100(27.5)
Ottawa Charter action areas	
<i>Build healthy public policy</i>	71(19.5)
<i>Create supportive environments</i>	17(4.7)
<i>Strengthen community actions</i>	5(1.4)
<i>Develop personal skills</i>	136(37.4)
<i>Re-orient health services</i>	13(3.6)
<i>All five action areas</i>	5(1.4)
Health equity	46(12.6)
Community empowerment	38(10.4)
Settings approach	22(6.0)
Inter-sectoral collaboration	8(23.4)

Responding to the question on defining ‘health’, a majority (91.5%) defined health using the WHO definition and only 2.1%(8) declared they either didn’t know or didn’t remember the definition. Definitions stated by 17(4.7%) were incorrect. Only 27.5%(100) managed to write a correct definition for health promotion. Definitions written by 48.4%(176) were incorrect and 24.1% (88) declared that they either ‘didn’t know’ or ‘couldn’t remember’ a definition for health promotion.

Comprehension of the action areas and some related concepts were further checked and analyzed using close ended questions and case scenarios. The action area ‘develop personal skills’ recorded the highest proportion (136, 37.4%) of study population with a ‘good’ level of comprehension. The action area the least (5, 1.4%) were able to comprehend was “strengthen community action”. Apart from the above action area, less than 5% of the study population showed a ‘good’ level of comprehension regarding the action areas “create supportive environments” (17, 4.7%) and “re-orient health services” (13, 3.6%). A majority had a ‘poor’ level of comprehension of ‘health equity’, ‘community empowerment’, ‘settings approach’ and ‘inter-sectoral collaboration’.

Knowledge on application of the health promotion approach was assessed using two case scenarios. In the one on child nutrition, more than 40%(173) managed to correctly name actions in the action areas of ‘create supportive environment’ and ‘build healthy public policies’. Actions to ‘develop personal skills’ were also named correctly by 38.2%(139). Only 20.1%(73) correctly named an action in the area of ‘strengthen community action’. In the other case scenario on non communicable diseases, 38.2%(139) and 34.9%(127) correctly named actions in the areas of ‘develop personal skills’ and ‘create supportive environments’, respectively. The action area which was mostly ‘incorrect’ in both case scenarios was ‘re-orient health services’ with more than 90%(338, 330) naming the actions incorrectly. PHMM scored better in the 1<sup>st</sup> case scenario compared to the 2<sup>nd</sup>. Nearly half of the PHMM (49.2%, 179) were not able to score any mark in the 2<sup>nd</sup> case scenario.

On inquiring what the role of a PHM would be in a Health Promotion process, only 55(15.1%) PHMM comprehended the role of a PHM correctly. Only 142(39%) of PHMM declared they were

involved in a health promotion programme at anytime during their career. Out of them, the programme activities mentioned by 25(17.6%) didn't match any of the action areas in Ottawa Charter and only 6(4.2%) had all five action areas. Thus, of the 142 PHMM who indicated that they were involved in a programme that use health promotion approach, only 41(28.9%) were actually found to be involved in such programmes. Activities that match the action area 'Develop personal skills' was mentioned by most 95(66.9%) while only 8(5.6%) PHMM mentioned an action that matched 're-orient health services'.

The sources of knowledge of health promotion of the PHMM were inquired into and 95 26.1% stated that they have not learnt health promotion from any source. All remaining 285(73.9%) had learned health promotion from a training programme. Most PHMM had learned from MOH level training programmes (212, 58.2%) or from their supervising officers (112, 30.8%). Of the total study population, only 28.8%(105) have had the opportunity to participate in a training programme on health promotion during the current year or the year before that. Of the 105 PHMM who have participated as such, a majority (70, 66.7%) had participated in programmes with MOH level resource personnel. The second highest type was resource personnel from NGO/private institutions (36, 34.3%) and only 19%(20) were trained on health promotion by regional level resource personnel.

#### Factors associated with knowledge on health promotion

The present study assessed the association of several factors with the level of knowledge on health promotion using bivariate analysis (Table 2) and also using multivariate analysis (Table 3).

**Table 2: Distribution of the level of knowledge on health promotion by socio-demographic and other selected factors**

Characteristic	Knowledge 'good' N(%)	Knowledge 'poor' N(%)	Significance
<b>Educational level</b>			
GCE O/L	22 (21.2)	82 (78.8)	p=0.001
GCE A/L or higher	104 (40.0)	156 (60.0)	
<b>Self-assessed ability to read English</b>			
'Fairly good'/'excellent'	47 (44.3)	59 (55.7)	p=0.012
'Can manage'/'very little'/'not at all'	79 (30.6)	179 (69.4)	
<b>Ability to surf internet to get information</b>			
Yes	12 (57.1)	9 (42.9)	p=0.025
No	114 (33.2)	229 (66.8)	
<b>The year of passing out from training</b>			
Before 2004	89 (29.7)	211 (70.3)	p<0.001
2004 of after	37 (57.8)	27 (42.2)	
<b>Place of basic training</b>			
Kandy NTS <sup>1</sup>	93 (34.9)	173 (65.1)	p=0.819
Others RTC <sup>1</sup>	33 (33.7)	65 (66.3)	
<b>Public health working experience</b>			
Less than 20 years	105 (42.2)	144 (57.8)	p<0.001
20 years or more	21 (18.3)	94 (81.7)	
<b>Had got involved in a health promotion programme<sup>2</sup></b>			
Yes	22 (53.7)	19 (46.3)	p=0.007
No	104 (33.2)	219 (67.8)	
<b>The size of the population being served</b>			

Less than 3000	81 (38.6)	129 (61.4)	p=0.064
3000 or more	45 (29.2)	109 (70.8)	
<b>Years of service at the current work area</b>			
8.25 years or less	74 (40.4)	109 (59.6)	p=0.019
More than 8.25 years	52 (28.7)	129 (71.3)	
<b>Performing cover up duties in the current year or the year before</b>			
Yes	43 (35.2)	79 (64.8)	p=0.858
No	83 (34.3)	159 (65.7)	
<b>Had an opportunity to learn health promotion approach from a training programme</b>			
Yes	105 (39.0)	164 (61.0)	p=0.003
No	21 (22.1)	74 (77.9)	
<b>Participation for a training programme on health promotion approach in the current year/ year before</b>			
Yes	39 (38.2)	66 (61.8)	p=0.519
No	87 (31.3)	172 (68.7)	
<b>Self assessment level of knowledge on health promotion</b>			
'Very good' / 'good'	74 (35.2)	136 (64.8)	p=0.516
'Fair'	42 (36.2)	74 (63.8)	
'Poor' / 'very poor'	10 (26.3)	28 (73.7)	
<b>Know benefits of health promotion approach</b>			
Yes	90 (42.9)	120 (57.1)	p<0.001
No / Don't know	36 (23.4)	118 (76.6)	

<sup>1</sup> NTS = Nurses Training School, RTC = Regional Training Center; <sup>2</sup> Only PHMM who had involved in programmes that have at least 2 health promotion actions were taken as involved

**Table 3: Factors associated with knowledge on health promotion in the multivariate analysis using logistic regression model**

Associated factor	Adjusted OR	95% CI	Significance
Public health experience < 20 years	2.22	1.19 - 4.14	p=0.012
Had an opportunity to learn health promotion approach from a training programme	1.98	1.67-3.54	p=0.03
Had got involved in a health promotion programme <sup>1</sup>	1.53	1.14- 3.78	p=0.04

<sup>1</sup> Only PHMM who had involved in programmes that have at least 2 health promotion actions were taken as involved

Having an educational level of GCE A/L or higher was significantly associated with knowledge on health promotion (p<0.001) along with PHMM who declared their ability to read English is either 'fairly good' or 'excellent' (p=0.012). The ability of a PHM to use internet to obtain information was also significantly associated with the level of knowledge (p=0.025).

The year of 'passing out' was significantly associated (p<0.001) with knowledge with a higher proportion (57.8%) of PHMM who passed out in and after 2004 having a 'good' level of knowledge. Whether or not the PHMM got their basic training at Kandy Regional Training Center did not significantly associate with knowledge on health promotion (p=0.819).

Having a population less than the norm was not significantly associated ( $p=0.064$ ) with knowledge while working in the current MOH area for <8.25 years was significantly associated ( $p=0.019$ ). Performing cover up duties in the current year or the year before that was not significantly associated with knowledge on health promotion ( $p=0.858$ ).

Involvement with a health promotion programme was significantly associated ( $p=0.007$ ) with knowledge on health promotion and the proportion (39%) of PHMM with a 'good' level of knowledge was significantly higher among the group who had an opportunity to learn from a training programme ( $p=0.003$ ). Participation in a training programme within the current year or the year before was not significantly associated with a good level of knowledge ( $p=0.519$ ).

The self assessed level of knowledge on health promotion in PHMM was not significantly associated with actual level of knowledge ( $p=0.516$ ). However, Knowing benefits of the approach was significantly associated with a 'good' level of knowledge on health promotion ( $p<0.001$ ).

When multivariate analysis was performed, public health experience less than 20 years ( $p=0.012$ ), participating in training programmes on health promotion ( $p=0.03$ ) and experience in implementing health promotion programmes ( $p=0.04$ ) were found to be the only significant unconfounded factors associated with knowledge on health promotion.

## Discussion

### Background information of study participants

The mean age of the study participants was 43.9 (SD  $\pm$  8.89). It is a proven fact that older age groups perform less in short-term memory, making it difficult for them to acquire and retrieve information<sup>7</sup>. Therefore, training new concepts and new views of health to PHMM who had already been trained on traditional views of health and in which a majority (81%) had become middle aged, will be a challenge.

At the time of data collection, 72 PHMM (19.8%) were performing cover up duties in other areas for durations ranging from 1 month to 4 years and 9 months. Performing cover up duties for longer durations increases the workload of PHMM. This fact may prevent PHMM trying out innovative approaches to promote health in communities.

### Knowledge on health promotion

The present study categorized 65.4% (238) of PHMM in Kandy district as having a 'poor' level of knowledge on health promotion. However, in the self assessed knowledge levels of study participants, only 10.4% (38) had rated their knowledge as 'poor' or 'very poor'. This suggests that a majority of PHMM do not have the ability to correctly quantify their knowledge on health promotion and have overestimated it. It is of concern as it may prevent them from taking up learning opportunities.

Though a majority had stated the widely accepted WHO definition for health, only 27.5% managed to give a correct definition for health promotion. This discrepancy in knowledge between the two definitions is probably because the definition of health is commonly referred to in day to day activities while it is not the same with definition of health promotion. Only one PHM managed to correctly state the definition mentioned in Ottawa Charter, which leads to serious doubts about PHMMs' knowledge on this document. Knowledge on Ottawa Charter is considered as an essential fundamental component of the knowledge competency on health promotion.

In the assessment of comprehension of each action area, at least 60% of study population was found to lack comprehension on all action areas mentioned in the Ottawa charter. The action area, 'develop personal skills' was comprehended by the highest number (37.4%). This may be because it is the action that can be achieved partially by interventions using health education approach they are familiar with. It should also be noted that this is an action area that places the health promoter in a leading role compared to the community. The action area the least (1.4%) comprehended well was 'strengthen community action'. It shows the inability of the respondents to grasp the concept of utilizing already available community accepted mechanisms to promote health. Only 17 (4.7%) showed a 'good' level of comprehension regarding 'create supportive environments' which requires knowledge on concepts specific to health promotion approach such as addressing determinants of health. 'Re-orient health services' was the action identified by the least (31%) and the comprehension level was also low as only 13 (3.6%) PHMM were categorized as 'good' level of comprehension. This finding is in line with the global phenomenon documented by many about health workers not understanding the need and ways of reconstructing health services as community centered and empowering systems. The comprehension of various concepts related to health promotion was also poor in a majority. The concept of 'intersectoral collaboration' which is seen in many approaches other than the health promotion approach was comprehended better than others.

The common phenomenon of labeling other health interventions with the 'health promotion' banner<sup>8</sup> was also evident in the present study. Undoubtedly there are other approaches that are effective in promoting health other than health promotion approach. But the interventions mentioned in the questionnaire, suggested by experts with experience in grass root level health promotion activities, were health worker oriented, isolated activities which are obviously different to community centered processes aiming to change determinants and empower communities. This fact was further highlighted when of 142 PHMM indicated that they were involved in programmes that use health promotion approach, but only 41(28.9%) were actually found to be involved in such programmes.

Only a minority could comprehend the role of a PHM as a health promoter. This may probably be due to poor knowledge of the approach. Thus, the combined effects of grass root level implementers not correctly identifying their roles as health promoters and conducting ineffective activities under the banner of health promotion can hinder the evolution of the approach in the local context as faulty implementations will lead to ineffective outcomes and loss of faith on the approach.

When considering the application of knowledge of health promotion, the fact that the PHMM did not score well in the case scenarios is compatible with their poor level of knowledge on the approach. The scores obtained for the case scenario regarding child nutrition were better than the scores for the case scenario regarding non communicable diseases. Further to the evidence of poor knowledge on health promotion, this is also evidence of the effects of compartmentalizing as opposed to holistic approach to health. PHMM, who are traditionally expected to look after the health of pregnant mothers and children tend to function better in those issues than issues they consider as 'outside' their range of duties. The inability to grasp the concept of holistic approach to health by grass root level health workers can render the strategies to address modern health issues ineffective. Furthermore, the actions they scored less were also compatible with the actions they didn't comprehend well, 're-orienting health services' and 'strengthening community actions'.



### **Factors associated with knowledge on health promotion**

As the basic qualification to enter PHMM training changed to GCE A/L during the past decade, the significance of association may be due to the fact that recently passed out PHMM were trained in health promotion during their basic training. As there were no books written in either Sinhala or Tamil at the time of data collection, the ability to access internet and read English well may have helped the PHMM to build their knowledge on health promotion, making those factors significantly associated with the knowledge of the approach. Qualifying as a PHM in the year 2004 or after significantly associated with the knowledge on health promotion while whether or not they obtained the basic training from Kandy Regional Training Center was not. This suggests that the PHMM who were trained on health promotion during their basic training had a 'good' level of knowledge and probably that the quality of training on health promotion did not differ widely between training centers.

PHMM who were involved in programmes identified as health promotion programmes had a good level of knowledge which is not surprising because of the first hand experience they receive of the approach. PHMM who are engaged in health promotion programmes may be motivated to learn more on the approach because they were interested in building their capacities.

When considering the factors of current working situation, the knowledge of health promotion did not significantly associate with having a smaller population size or doing cover up duties. This may indicate that knowledge on health promotion is not associated with the work load of the PHMM. But one should be careful in interpreting above findings because it may also be due to the fact that recently passed out junior PHMM are assigned to remote areas with less population density which also have adjacent vacant areas they have to cover up.

A decade had passed after introduction of health promotion to the curriculum of primary health care workers in Sri Lanka and initiating the Training of Trainers programmes<sup>9</sup>. Still 26.1% (95) of PHMM in Kandy district declares that they had not learned health promotion by any source of learning. This is a fact that should be taken into serious consideration as the frequency distribution of sources of knowledge on health promotion reflects the traditional system of learning by training programmes opposed to getting motivated as adult learners to search for new dimensions of knowledge.

Knowing the benefits of health promotion was significantly associated with knowledge probably because they got motivated to apply the approach and build their knowledge by application. The most stated perceived benefit of health promotion approach was that it makes the duties of a PHM easier. This finding is in fact contrary to the common belief that it increases the work load of PHMM, adding more burden to them. This benefit may be a cumulative result of other benefits stated by the study participants such as; communities get empowered to identify and address determinants themselves; programmes are owned by the communities; community participation is increased; the relationship between the PHM and the community is improved; make communities more enthusiastic about their health and builds community leadership in health. It was encouraging to note that some had stated that health promotion approach makes the PHMM enjoy her job more, probably because it makes the duties easier and improves the relationship between the PHM and the community.

## Conclusions and recommendations

A majority (238, 65.4%) of PHMM in the Kandy district had a poor level of knowledge on health promotion. Gaps of knowledge were identified in the areas of Ottawa Charter, health promotion action areas and some concepts related to health promotion. The level of knowledge application was also found to be low. The mistake of labeling other activities as activities using health promotion was commonly seen among the study participants.

It is recommended that the specific areas of knowledge gaps identified be strengthened, especially on basic principles of the approach and other integrated concepts such as community empowerment and determinants of health. Learning opportunities should be created in the forms of training programmes and reading material in first language. Improving access to internet facilities and enhancing English language skills may also help in improving knowledge.

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