



## Health Coaching in Primary Care

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### Abstract

This paper reviews evidence generated on 'health coaching' from January 2012 to December 2017 and its importance in primary care setting. It further analyzes the lacunae in knowledge and areas for further research. Electronic database, Pubmed, was searched for relevant studies. Initial search returned 1607 studies out of which 16 were finalized for review. A systematic review was carried out according to PRISMA guidelines. An increase in quality of evidence generated from January 2012 to December 2017 was observed. The studies also showed a transition from prevention and disease control to community level prevention and health promotion. Health coaching has been effective in various chronic conditions in primary care and community settings. It can be effectively used as a means of health promotion in a primary dental care set up. Health coaching has emerged as an important tool for general and oral health promotion and especially improved compliance to health related instructions and visits. It has also been proved useful in chronic disease control in primary care setting. However, a global reach of health coaching interventions and a global participation in research was missing. Future research should aim at developing cost effective programs for health coaching in various regions of the world.

**Keywords:** Health Promotion; Patient-Centered Care; Health Education; Patient Education; Primary Healthcare; Counselling

### Introduction

Social and regional disparity is an important barrier in providing universal health care coverage. However, despite differences, there are various practices where reforms are required universally in order to achieve equitable health care facilities across the world [1]. World Health Organization (WHO) in 2013 recommended growth of research for universal health coverage [2]. Research focus on these universally required reforms is, thus, important for a sustainable and positive healthcare policy making in the future.

Health promotion has been an important part of global health policy [3]. WHO defines Health Promotion as "the process of enabling people to increase control over, and to improve, their health" [3]. Global health organizations have repeatedly recommended

Health promotion as public health measure for a healthy world [4]. The WHO has further, recommended positioning of health promotion activities as priority area in local, regional, national and international policies [5], as well as making health promotion a part of global development agenda [6].

Importance of effective interventions to bring about health promotion strategies has been repeatedly emphasized [6,7]. Innovative methods in health promotion for universal health coverage have been advocated [8]. Health coaching has been one of the latest additions in the health promotion tools in order to supplement or even supersede traditional health education as a health promoting measure [8].

Primary health care is the basis of global public health care. Earlier, primary health care centers mainly dealt with diagnosis and treatment of disease; however in contemporary practice, primary health care also has an additional responsibility of health promotion and dissemination of health related information in addition to their traditional roles. These centres may, therefore, serve as nodal areas for starting 'health coaching' activities [9].

Health education and health promotion are important aspects of primary dental care. Being chronic diseases, most of the dental ailments are key areas where health coaching can be used. Past years have seen various pilot projects and programmes on 'health coaching'. There have been both quantitative and qualitative researches on this topic. Some of these have also involved dental health care settings. However, a standardized and universally acceptable format for health coaching is still lacking. Concept of health coaching is yet entirely unknown in many regions and societies.

The present paper reviews evidence generated on 'health coaching' from January 2012 to December 2017 in order to establish current trends. It also analyzes the importance of health coaching in general and dental health care. It further analyzes the lacunae in knowledge and areas for further research that will aid in making a standardized and universally acceptable health coaching approach.

**Methods**

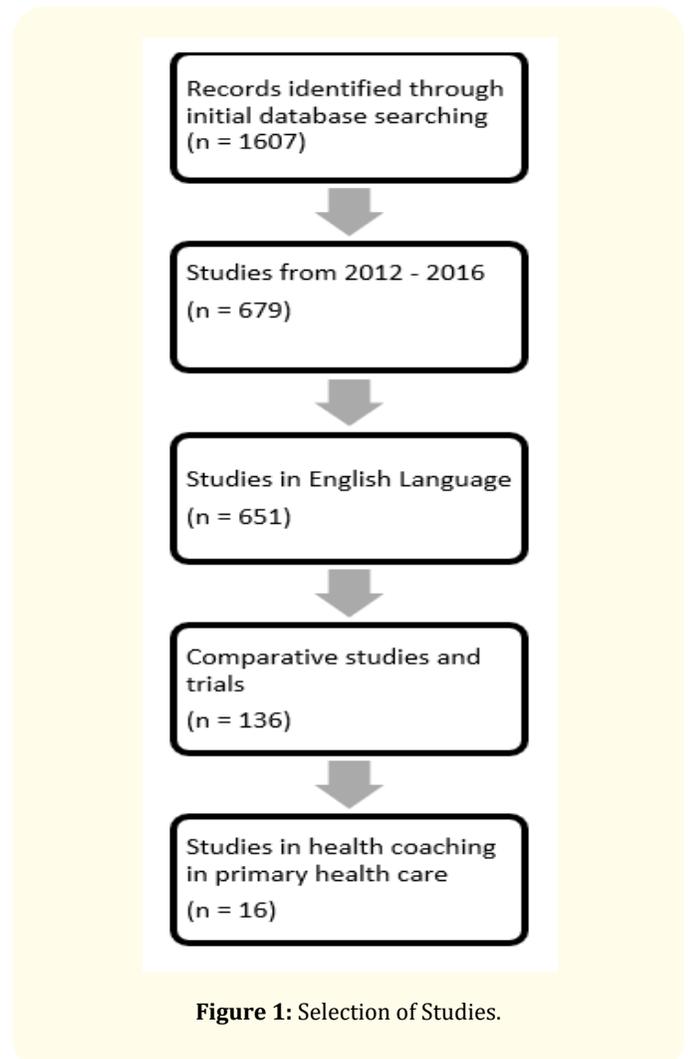
This paper deals with the systematic review on recent trends based on evidence generated on 'health coaching' from January 2012 to December 2017. The studies were selected based on the following inclusion criteria: 1) studies published in English language; 2) based on health coaching in primary care settings and, 3) that were either comparative studies or trials. Studies that did not have a clear methodology and results were excluded from the review.

Search was done through PubMed, bibliographic database of the US National Library of Medicine according to keywords and MeSH terms as indicated in table 1. Initial search returned 1607 results that included all kind of research papers including reviews. Of these papers, 679 were pertaining to the time period for inclusion criteria for the review. Studies of only English language were included; therefore, 28 studies were excluded. As only comparative studies and trials were included for review, only 136 studies were selected based on this criteria. Further, these studies were screened by the reviewers for studies in primary care settings and 16 studies were finalized for review. Full text copies of the studies not available on PubMed were obtained from National Medical Library, New Delhi.

Three authors independently identified studies that were included in the present review. Initially, titles and abstracts of the records retrieved by the search were assessed in order to exclude those studies that were inappropriate (Figure 1).

S. No.	Keyword
1	Health Coaching
2	Coaching
3	Primary Care
4	Primary Healthcare

**Table 1:** Keywords used for Study Selection.



**Figure 1:** Selection of Studies.

The selected studies were analysed on the basis of year of publication, region, study design, study population, sample size and duration of the study. Aim, outcome measures, results, conflicts of interest, bias and implications of the studies were also assessed.

This review was done according to the guidelines set forth by Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). Pre-specified data was extracted from each study and any kind of disagreement regarding article screening and extraction was sorted out by the other authors.

Details of each study included in the review and analysis of information is outlined in table 2 and table 3.

S No	Authors	Region	Study design	Study population/ Sample Size/ Duration	Aim of the study	Outcome Measure	Result	Implications
1	Sides EG., <i>et al.</i> (2012)	USA	Two arm pilot study/trial	Patients with stroke. 20 intervention and 10 controls. 3 months.	Assess feasibility of telephonic medication coaching after discharge.	Feasibility and participant evaluation of medicine coaching.	Intervention patients were more likely to see their primary care provider compared to controls.	Trends toward better appointment keeping in patients with medicine coaching.
2	Margolius D., <i>et al.</i> (2012)	USA	Two arm study/trial	Low income, minority patients with poorly controlled hypertension who visited primary care center. 237 patients. 6 months	Determine whether health coaching with home titration of antihypertensive medications can improve blood pressure control compared with Health coaching alone.	Systolic blood pressure from baseline to 6 months.	No significant difference in reduction of systolic blood pressure between two arms.  Significant mean decrease in systolic blood pressure before and after study.  Decrease in number of primary healthcare visits.  More the coaching encounters, greater the decrease in systolic blood pressure.	Blood pressure control can be improved by teaching patients to monitor their blood pressure at home and having nonprofessional health coaches assist patients, on medication adherence. The improved blood pressure control can be achieved while reducing the time spent by physicians.
3	Van der Wulp I., <i>et al.</i> (2012)	Netherlands	Randomized controlled trial	133 patients with type 2 diabetes. 6 months.	To study the effectiveness of a peer-led self-management coaching intervention in recently diagnosed patients with Type 2 diabetes.	Questionnaire measuring changes in self-efficacy, coping, physical activity, dietary habits, psychological well-being, depressive symptoms and diabetes related distress.	In participating patients, self-efficacy, coping and saturated fat intake improved significantly over time. Analyses of participants with low self-efficacy at revealed a significant time × group difference.	In participating patients, self-efficacy, coping and saturated fat intake improved significantly over time.
4	Hurling R., <i>et al.</i> (2013)	UK	Randomized controlled exploratory trial.	44 families in two arms. 3 weeks.	To evaluate the efficacy of the online coaching programme.	Objective monitoring of tooth brushing.	Children from families assigned to the coaching programme brushed their teeth 38% more often than those in the control group.	Opportunities for further research are discussed, including the need to create a more engaging system and so increase compliance
5	Neuner-Jehle., <i>et al.</i> (2013)	Switzerland/ Europe	Short intervention/ Questionnaire- Interview based study	GPs/ Patients. 20 GPs/ 1045 patients. 12 months.	"Health coaching" program development/testing feasibility and acceptability of program.	Participation rates.  Duration of counseling.  Patient's self rated behaviour change in area of choice.  Ratings of motivational/conceptual/acceptance and feasibility issues	37% completed the program.  50% ratings improved.  Increase in favourable health behaviour ratings from 9 to 39%.  Ratings for motivational/conceptual/acceptance and feasibility were consistently high.	Acceptability and feasibility of program.  Requirement of further studies/ trials for cost effectiveness and dissemination.
6	DiDonto KL., <i>et al.</i> (2013)	USA	Prospective interventional cohort study.	81 benefit-eligible patients and 23 community pharmacy coaches.	To assess the clinical and patient-centered outcomes of health coaching provided in the workplace by community pharmacists.	Change from baseline in mean total cholesterol, serum triglycerides, high-density lipoprotein cholesterol, low-density lipoprotein cholesterol, systolic blood pressure, diastolic blood pressure, FBG, weight, BMI, waist circumference, health-related quality of life, and patient satisfaction.	Patients' total cholesterol, LDL cholesterol, HDL cholesterol, DBP, and FBG were reduced significantly. More than 90% of patients were satisfied with the service and the care they received.	Wellness coaching by a pharmacist provided in a community pharmacy can result in significant improvements in cardiovascular risk factors, with a trend toward improved HRQoL.  Patients were satisfied with the wellness program from the start of the project.

7	Koniak-Griffin D., <i>et al.</i> (2014)	USA	Randomized controlled trial.	223 low income and education group Hispanic women. 2years and 8 months.	To evaluate the outcomes and feasibility of a community health worker-led lifestyle behavior intervention for overweight, immigrant Latinas.	Dietary habits questionnaire, accelerometer readings of physical activity, and clinical measures.	Women in the intervention group improved significantly in dietary habits, waist circumference, and physical activity in comparison to those in the control group. High attendance at classes and participation in the individual teaching and counseling sessions and high retention rates support the feasibility and acceptability of the promotor-led lifestyle behavior intervention.	Lifestyle behaviors and other risk factors of overweight Latina women may be improved through a promotor-led lifestyle behavior intervention. Feasibility of implementing this intervention in community settings and engaging promotor as facilitators is supported.
8	Thom DH., <i>et al.</i> (2014)	USA	Randomized controlled trial	Low income English or Spanish speaking patients with poorly controlled type 2 diabetes. Total 441 patients in two arms. 12 months.	To assess the impact of health coaching on patients' trust primary care provider.	Patient trust in their primary care provider measured by the 11-item Trust in Physician Scale, converted to a 0-100 scale	After 12 months, the mean trust level had increased more in patients receiving health coaching, this difference remained significant after adjustment for number of visits to primary care providers.	Primary care providers should consider adding health coaches to their team as a way to enhance their relationship with their patients.
9	Cinar AB., <i>et al.</i> (2014)	Turkey	Two arm Prospective intervention study	179 patients with type 2 diabetes mellitus divided into health education and health coaching groups.	To evaluate the impact of Health Coaching compared to Health Education on oral health and diabetes management among patients with diabetes type II	Community Periodontal Need Index and HbA1c	Significant reduction in CPI and HbA1c in health coaching group.	The present findings imply that HC has a significantly higher impact on better management of diabetes and oral health when compared to formal HE. This calls for the use of HC by dentists, physicians, and diabetes educators in order to improve quality of life of DM2 patients by facilitating better oral health and diabetes self-management.
10	Thom., <i>et al.</i> (2015)	USA	Non-blinded, Randomized Controlled Trial	Coaching arm 224, Control arm 217.	Medication compliance for anti-diabetic medication.	Proportion of completely concordant patients	Increased proportion of complete concordance to medication adherence. (difference in change, 10%; P = .05). Decreased proportion of medication non-compliance (difference in change, 17%; P = .013).	Health coaching increases compliance with medication for anti diabetic medication.
11	Jane Mc Cusker., <i>et al.</i> (2016)	Canada	Single blind Randomized Trial	223 patients of whom 172 completed 6-month follow-up.	To compare outcome of depression toolkit with and without telephonic coaching in 40 years and older with depressive symptoms.	Depression severity at 6 months using PHQ 9 scores. Self efficacy, satisfaction and use of health services after 6 months.	Statistically significant difference between PHQ 9 score between intervention and control group after 3 months. No statistically significant difference between PHQ 9 score between intervention and control group after 6 months.	Telephonic coaching of depression toolkit has an incremental value that is short lived.
12	Willard-Grace R	USA	Randomized Controlled Trial	441 patients	Whether health coaching improves control of cardiovascular and metabolic risk factors when compared with usual care.	Hemoglobin A1c, systolic blood pressure, and low-density lipoprotein (LDL) cholesterol.	Participants in the coaching arm were more likely to achieve both the primary composite measure of 1 of the clinical goals (46.4% vs 34.3%, P = .02) and the secondary composite measure of reaching all clinical goals (34.0% vs 24.7%, P = .05). Almost twice as many coached patients achieved the hemoglobin A1c goal (48.6% vs 27.6%, P = .01). Coached patients were more likely to achieve ≥5% of initial weight loss at both 12 and 24 months (P < .001).	Medical assistants serving as in-clinic health coaches improved control of hemoglobin A1c and LDL levels, but not blood pressure, compared with usual care.

13	Sherman RP, <i>et al.</i> (2017)	USA	Retro-spective study	A total of 271 individuals with a BMI >25 kg/m <sup>2</sup>	To examine the effectiveness of primary care-integrated health coaching for weight loss in obese patients	The main outcome measures were weight loss as a percentage of initial body weight and proportion of patients with weight loss ≥5% initial body weight	A 7.24% reduction in initial weight was observed after 12 months (95% CI = 8.68 to 5.90). Also, 6.77% weight loss was achieved after 24 months (95% CI = 8.78 to 4.76). A ≥5% of initial weight loss was achieved at both 12 and 24 months (P < .001). Health coaching costs were \$288.54 per participant.	Health coaching may be competitive with costs for other work site and commercial weight loss interventions
14	Oksman E., <i>et al.</i> (2017)	Finland	Randomized Controlled Trial	1570	To evaluate the cost effectiveness of a tele-based health-coaching intervention among patients with type 2 diabetes (T2D), coronary artery disease (CAD) and congestive heart failure (CHF).	Utility was based on a Health Related Quality of Life (HRQoL) measurement and cost effectiveness was assessed using incremental cost-effectiveness ratios (ICERs).	The cost-effectiveness of health coaching was highest in the T2D group (ICER €20,000 per Quality-Adjusted LifeYears [QALY]). The ICER for the CAD group was more modest (€40,278 per QALY), and in the CHF group, costs increased with no marked effect on QoL	Health coaching should be targeted to selected chronically ill patient groups.
15	Sherman RP <i>et al.</i> (2017)	USA	Retro-spective study	17 patients. Author reviewed the charts of all APF patients who had prediabetes and were seen by the health coach between 2012 and 2014.	To assess if the use of a health coaching intervention among primary care patients, with prediabetes, warrants further examination.	Outcome measures collected were HbA1c, weight, body mass index (BMI), age, gender, race, level of education, presence of comorbid conditions including hypertension, hyperlipidemia, depression, and anxiety,	Patients who received health coaching achieved significant reductions in HbA1c and body weight after 2 years.	The health coaching model can be applied to reduce HbA1c in primary care patients with prediabetes.
16	Djuric Z., <i>et al.</i> (2017)	USA	Clinical trial	82 patients	To assess the feasibility of training Medical Attendants to address health coaching for improved nutrition, physical activity, and sleep among the general clinic population.	Blood pressure, weight, height, waist circumference, diet questions, physical activity, fatigue, sleep quality, depression, stress and self confidence were measured.	Subjects who completed assessments at 12 weeks had significant weight loss  There also were improvements in diet and physical activity.  Clinics Subject who completed the study were highly satisfied with the program and felt that health coaching should be available in all family medicine clinics	Medical assistants can be trained to assist patients with lifestyle changes that are associated with improved health and weight control

**Table 2 :** Analysis of Studies.

## Results

Quality of evidence generated by studies improved from January 2012 to December 2017. Also, the earlier studies were mainly on prevention and disease control, while the later studies were mainly conducted at community level for prevention and health promotion. Health coaching is effective for chronic diseases in primary care and community settings like diabetes, hypertension and dental diseases. Additionally, it can also be effectively used as a means of health promotion in a primary dental care set up. The results from the selected studies for systematic review are presented below.

The study by Van der Wulp I, *et al.* in 2012, the Netherlands assessed the effectiveness of peer reviewed self-management coaching among recently diagnosed diabetic patients [10]. A questionnaire based analysis showed an increased self-efficacy and improvement in saturated fat intake among the participants.

Another two arm trial in the United States by Margolius D, *et al.* aimed at determining whether health coaching with home titration of antihypertensive medications can improve blood pressure compared with health coaching alone [11]. Measurement of systolic blood pressure at baseline and after 6 months showed a significant decrease

in blood pressure in the participants and decrease in number of health care visits in the patients. The study also revealed that greater the number of coaching encounters, greater was the decrease in blood pressure. A significant difference among reduction in systolic blood pressure was not noticed among the two study arms.

Variable		Distribution
Year of study	2017	4
	2016	2
	2015	1
	2014	3
	2013	3
	2012	3
Region	USA	10
	Netherlands	1
	Turkey	1
	Switzerland	1
	UK	1
	Canada	1
	Finland	1
Study design	Randomized Controlled Trial (RCT)	7
	Two arm study/ trial	3
	Interventional study	1
	Short intervention/Questionnaire based	1
	Retrospective study	2
Field of study	Primary Dental/Oral Health	2
	Pharmacy in Primary Health Care	1
	Chronic systemic diseases	7
	Primary Healthcare	8
	Others	4

**Table 3:** Distribution of variables.

Neuner-Jehle, *et al.* conducted a questionnaire- interview based study in 2013 in Switzerland that aimed at development, feasibility testing and acceptability of a health coaching program among 20 general practitioners and 1045 patients over a span of one year [8]. The study showed an improved behaviour ratings. Motivational, conceptual, acceptability and feasibility ratings for the program were found to be high.

A study by Di Danto KL, *et al.* in 2013, assessed clinical and patient-centered outcomes of health coaching provided in the workplace by community pharmacists [12]. It was a prospective interventional cohort study that included 81 patients and 23 community coaches. The study reported that total cholesterol, LDL cholesterol, HDL cholesterol, DBP, and FBG reduced significantly. More than 90% of patients were satisfied with the service and the care they received.

Effect of online coaching on frequency of tooth brushing was evaluated through a randomized controlled trial in United Kingdom by Hurling R, *et al.* in 2013 among 44 families [13]. It reported that children from families assigned to the coaching programme brushed their teeth 38% more often than those in the control group.

In 2014, two randomized controlled trials were conducted in the US. Trial by Koniak- Griffin D, *et al.* was aimed to evaluate the outcomes and feasibility of a community health worker -led lifestyle behavior intervention for overweight [14]. It showed that women in the intervention group improved significantly in dietary habits, waist circumference, and physical activity in comparison to those in the control group. Another study by Thom, *et al.* [15] aimed at assessing the impact of health coaching on patients' for their trust in primary care provider. The study revealed that after 12 months the trust of patients in primary care provider improved in the study group as compared to the control group.

Cinar AB, *et al.* [16] conducted a two arm intervention study in Turkey in 2014 to evaluate the impact of Health Coaching compared to Health Education on oral health and diabetes management among patients with diabetes type II. Community Periodontal Need Index and HbA1c percentage were considered as outcome measures. The study showed a significant reduction in both the measures in health coaching group.

A two arm pilot study in the United States by Sides EG, *et al.* in 2012 among patients with stroke assessed feasibility of telephonic medication coaching after discharge [17]. It concluded that the patients who got the coaching were more likely to see their primary care provider as compared to the control group.

Jane Mc Cusker, *et al.* in 2016 conducted a single blind randomised trial among 223 patients in Canada who were provided depression toolkit [18]. One arm was given a telephonic coaching while other was provided usual care. Although there was an initial reduction in depression; however, after 6 months, the reduction in depression scores were not reported to be significantly different among two arms.

Thom., *et al.* conducted a non-randomized controlled trial [19] in 2016 among 224 diabetic patients under medication in the US. They concluded that health coaching increased compliance to anti-diabetic medication. Similarly, health coaching in another study in the US improved control of risk factors [20].

Sherman RP, *et al.* did an observational clinical study on 271 individuals to examine the effectiveness of health coaching on weight loss in obese patients. It was observed that coached patients achieved more weight loss  $\geq 5\%$  of initial weight loss at both 12 and 24 months ( $P < .001$ ) [21].

Similarly, Oksman E., *et al.* did a study on among patients with Type 2 diabetes (T2D), Coronary artery disease (CAD) and congestive heart failure (CHF) to evaluate the cost effectiveness of a tele-based health-coaching intervention. The result of the study reported that high cost effectiveness was seen in type 2 diabetes patient, modest cost effectiveness in Coronary artery disease patients and no marked effectiveness was seen in Coronary Heart disease patients [22].

Study by Sherman RP, *et al.* showed that patients who had received health coaching achieved significant reductions in HbA1c and body weight after 2 years, which continued even after the coaching ended. The author examined charts of patients who had prediabetes (HbA1c 5.7% to 6.4%) and received health coaching between 2012 and 2014 at the Ambulatory Practice of the Future (APF) [23].

Djuric Z., *et al.* did a clinical trial on two medical assistants, who were briefly trained. The medical assistants did telephone coaching with in-person visits at the beginning and end of the program. Coaching targeted improvements in diet, physical activity and sleep habits. Subjects who completed assessments at 12 weeks had significant weight loss and there was also an improvement in diet and physical activity [24].

The studies were assessed to have low risk of outcome and reporting bias based on clarity and completeness of available information. However, selection bias was reported in some of the studies under review. No conflicts of interests were found in the assessed studies.

## Discussion

Assessment of the selected studies on basis of their time of publication showed that there was an increase in quality of evidence generated from January 2012 to December 2017. Many studies selected from the year 2014 onwards were found to be randomized controlled trials [14-20]. The result of these studies therefore indicates a serious effort towards establishing health coaching as an important tool in patient and community education practice at primary care level. The quality of data collected and evidence generated in these studies makes a basis for concrete foundation of further research in this field.

The studies also show a transition from preventive and disease control related studies [11,17] to community level and health promotion studies [12-14]. These studies have also been able to establish success of health coaching intervention in community setting as a means of health promotion. Recent interventions have also proven health coaching as an effective strategy for health promotion in diverse population groups including Hispanics [14], low income individuals [16] and children [13]. An effort to study and generalize the effect of health coaching has, therefore, begun.

The region of distribution of studies shows that seven out of the twelve studies selected in the review were conducted in the USA. All the studies were limited to North America and Europe. Except one study conducted in Turkey [15], none were conducted in Asia-Pacific. A global reach of health coaching interventions and a global participation in research on this topic is, thus, missing. Further, since only a few studies were done, these included limited areas of medical science.

Studies like health coaching study in general practitioners conducted by Neuner-Jehle., *et al.* [8] and the study by Sides EG., *et al.* [17] tested feasibility and acceptability of health coaching. This study also provided proof of relationship between health coaching and appointment compliance [17]. This showed that health coaching can have a greater impact on various dimensions of health care than initially thought. There could be many similar areas of primary care practice where health coaching interventions may prove helpful.

Health coaching has been proven effective in various chronic conditions such as Hypertension [11] and diabetes [10,15,21,22]. The study by Cinar AB, *et al.* has successfully presented efficacy of health coaching initiatives as compared to traditional health education in improving oral health and glycated haemoglobin percentage in diabetic individuals [12,16]. The acceptance for health coaching was found to be as high as 90 percent in community based study for chronic disease [12]. Lifestyle related risk factors in a study population improved significantly in a population of low income individuals [14]. Impact of health coaching in the community was not only limited to health promotion of the individuals obtaining health coaching, but also percolated into their families [13].

Further, it has been observed that Primary care-integrated health coaching was associated with statistically significant weight loss in overweight and obese adults. So, health coach-based intervention for overweight and obesity is feasible in the primary care setting [24].

All these studies were, however, limited to the USA and the European nations where primary health care levels are high, education levels of the patients are high and cultural barriers are less as compared to the developing nations like India, China, far eastern nations, Africa and Latin America. The generalizability of effectiveness of health coaching in primary health care may not be made on basis of these studies alone. In countries like India, various educational, cultural and resource barriers may affect the success of such an initiative. The studies conducted may have been successful in developing a successful program for a localized population, but, various researchers and primary health care providers may have to tailor health coaching programs according to the needs of their populations.

Two studies evaluated the role of health counselling in oral health. Children in families who were provided health coaching were found to comply better with the tooth brushing protocol [13]. It could be, therefore, said that health coaching in families improves adherence to oral hygiene habits. Hence, health coaching can be effectively used as a means of health education in a primary dental care set up as well and this increased compliance towards oral care habits could bring down the burden of oral diseases. Another study showed that diabetic patients were able to take better care of their oral health after health coaching program as concluded by decrease in their Community Periodontal Index scores [16].

Cost-effectiveness of a tele-based health coaching program for chronic disease in primary care was assessed in a study. The quality of life of chronic disease patients improved with moderate cost. However, the follow up period was short so, long term effect should be evaluated [22].

Most of the studies included in this review made strong recommendations for future researches in the field of health coaching. Further researches were recommended for evaluative criteria for such studies as well. Need was felt to evaluate cost effectiveness and feasibility of health coaching on a wider level in order to integrate it into mainstream of primary health care.

## Implications

In addition to the current trend of Randomized controlled trials, studies aiming at quantitative as well as qualitative evaluation of health coaching programs are needed in future to evaluate the effectiveness of program in health promotion rather than disease control. Studies should be aimed at reaching a large part of population in a short time and with minimum possible cost and resources. Research is required on diverse population subgroups in developed countries as well as in developing nations.

## Conclusion

Health coaching has emerged as an important tool for general and oral health promotion. It has high acceptance rate and wide applicability in various chronic conditions. Initial research has paved the way and illuminated us on benefits of this technique. However, a lot remains to be unveiled. Future research on designing programs to cater diverse population through health coaching may bring about changes in health promotion practice that might well guide the world into an era of improved health consciousness and healthy living.

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