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ORIGINAL ARTICLE

Effect of Peer-Led and Professional-Led Oral Health Education on KAP of Child Bearing Age Females - A Randomized Controlled Trial

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ABSTRACT

Aim: To compare the effect of peer led and professional led oral health education on knowledge, attitude and practicesof child bearing age females.

Methods: The design for this study was a randomized controlled trial in which changes in knowledge, attitude and practices were compared after providing peer and professional-led education.480 females of child bearing age in BHU Raiwind and 500 in Araiyaan were randomly selected for the study. Brushing frequency, brushing timing and fluoride prevention outcomes were compared statistically.

Results: The results indicated that brushing twice a day after intervention in peer group increased to 24% from 16% (baseline) but again dropped to almost 15% at follow-up. Brushing twice a day in professional-led group was 17% at baseline which increased to 36% after intervention; though it reduced to 31% at follow-up.It was found out in peer-led group that at baseline 24.6% considered fluoride helpful in preventing oral diseases, this increased twofold in intervention visit but again dropped at follow up (still more than that at baseline). While in professional group 24.1% (same as in peer-led) thought fluoride helpful in preventing dental diseases but here in intervention visit this increased more than three times (82%) and dropped to 40% which is still more than baseline data.

Conclusion: Professional led Health education significantly played an important role in adopting healthy oral hygiene habits among females of child bearing age. Health Education provided by the peers also improved the oral health conditions.

Keywords: Health Education, Oral Health Education, Oral health Awareness, Professional led health Education.

INTRODUCTION

Pakistan is the 6thmost populous country of the world with population of 230million[1].In 2007 it was estimated that 12 districts of Punjab having a population of 1.5 million women and children who never had access to health care are now being treated free of charge by female doctors in their respective BHUs.More than 20 million living in these 12 districts (out of a total of 35 in Punjab) now have free of cost medical assistance in their own hometowns and villages[2].

Health has always been an elusive term to define but practically it is envisaged as a resource which gives people the ability to improve their quality of life (WHO 1984)[3,4].The status and behaviors related to health are determined by personal, social and environmental factors and their effects at multiple levels. Health education is any combination of learning opportunities designed to assist voluntary adaptations of behavior that are beneficial to health[4].Community-based health education programs and strategies are designed to reach people both inside and outside of traditional health care settings such as schools, workplaces, homes and communities[5]. Each setting provides opportunities to reach people using present traditional social structure. It results in greater impact and reduces the time and resources necessary for program development[6].

Studies have shown that most effective methods of health education are education by peers and by health personnel or professionals[7]. Initially it was reported that professional led education is the most effective method of community education but later studies have focused on peer led education strategies as well[8].

Very few studies have been conducted to evaluate both these methods in similar populations and none have focused on oral health education. In Pakistan the family structure is characterized by high parental control, protectiveness and involvement with children[9]. Very few studies have been conducted on behavioral and cultural aspects related to oral health in Pakistan[10]. It is generally accepted that dental attendance rates increase with an increase in the educational status of mothers' education levels play an important role in their children's oral health[10]. In Pakistan women's primary role is to take care for the family and raise children therefore it is of prime importance to educate mothers for improving quality of life of community through betterment in oral health status of people[12].

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Effectiveness of peer-led and professionally led groups to support family caregivers when seen by reported professionally led groups produced the greatest improvement in psychological functioning, and peer-led groups produced the greatest increases in informal support networks[13]. However recent evaluations of the peer-led approach in adolescent sexual health education have found significant difference between peer-led and professional-led education strategies[14] studied the effects of Peer and group education on knowledge and beliefs regarding self-examination practice among university students in Turkey and found no difference in both group educations[15].

The present study was conducted to compare the effect of peer led and professional led education on oral hygiene practices and knowledge of females of child bearing age. A research gap was found in comparison of two health education strategies in Pakistan and this study was done to address such a gap in the literature.

METHODS

The design for this study was a randomized controlled trial in which changes brought about by, Peer-led and Professional-led Oral Health education on knowledge, attitude and practices of child bearing age females, were measured. This was carried out using FDI approved questionnaire. All research participants constituted a total of 980 females who gave written consent to participate and

were of child bearing age (18-45 years of age). Any participant with some Co-morbid diseases and those mentally handicapped were excluded from the study.

Lady Health Workers of the community indicated the females of child bearing age and among them study population was randomly selected. Lecture was arranged in basic health unit (BHU) of Araiyaan. Every day one hundred females were given lectures on oral health education by professionals, so each visit was completed in three days. As the females were of child bearing age, so the lecture focused mainly on the effect of good oral hygiene status during pregnancy and its effect afterwards on the female herself and her child's oral and general health, brushing teeth twice a day with fluoride toothpaste, brushing teeth with the correct technique and importance of fluoride and its daily use in tooth paste was enlightened. Lady Health workers (LHW) of the concerned area have a complete list of all females; they identified the females of child bearing age and every '3rd' household was enrolled for the study.

Lady health workers (LHWs) were trained accordingly to educate the community. LHWs went from house to house **(door to door)** on monthly basis; by this mean they educated the females. After educating the females KAP questionnaire was asked from females and scores were filled by the LHWs. This data was compared with the data collected by the professional-led group. Follow ups were arranged for both groups. Data was entered and analyzed by using SPSS. Brushing frequency, brushing time, fluoride prevention were presented as frequency and percentages. Chi square test, student t test and independent t test was applied to analyze and compare the peer and professional led groups. For all analysis *p* value of <0.05 was considered to be significant (Confidence level=95%).

RESULTS

The study subjects were after being divided into two groups, were imparted with additional knowledge regarding oral hygiene practices and its impact on her wellbeing and that of her child, by peers and professionals. It was expected that this additional knowledge would bring a change in their attitude and practices regarding oral health. This change was measured through answers of questions regarding brushing teeth twice a day (morning and evening) and role of fluoride in preventing dental diseases.

Brushing practices were assessed by two questions; one focusing on brushing frequency and the other assessing the brushing timings. The role of fluoride in preventing dental diseases was measured through three questions verifying their attitudes.

Both groups were given exactly the same information derived from a single source (Booklet entitled صحت دہن رہنما کتابچہ برأے کمیونٹی ہیلتھ ورکرز اور اسکول ٹیچرز). The message was delivered in the same language, at the same time but at different location to avoid bias.

The results indicated that brushing frequency at intervention in peer group increased to 24% from 16% (baseline) but again dropped to almost 15 % at follow-up. Participants at baseline in professional-led group brushing twice a day were 17% which increased more than twice at intervention; though it reduced to almost double (than at baseline) at follow-up.

Twice a day tooth brushing frequency in both groups increased to twice the baseline; however, in the peer-led group this practice was reported by lesser number of respondents than that at baseline in follow-up visit. Whereas in professional group a slight decrease was seen at follow-up visit but still it was more than double the value at the baseline showing a more improved practice of tooth brushing in professional group.

Knowledge about role of fluoride in preventing dental diseases was also assessed through the questionnaire. It was found out in peer-led group that at baseline 24.6% considered fluoride helpful in preventing oral diseases, this increased twofold in intervention visit but again dropped at follow up (still more than that at baseline). While in professional group 24.1% (same as in peer-led) thought fluoride helpful in preventing dental diseases but here in intervention visit this increased more than three times (82%) and dropped to 40% which is still more than baseline data.

Study subjects in peer-led group at baseline who were not sure of the role of fluoride at baseline were 67% which first reduced to 36% at intervention but almost reached the same level as at baseline. Professional-led group consisted almost the same number at baseline as peel-led group; it reduced almost three fold at intervention but at follow up it was remarkably higher but still lesser than that in peer-led group follow up visit that did not knew about the role of fluoride in preventing dental diseases.

Table 1: Peer-led (Brushing frequency)

	Baseline	Intervention	Follow up (2 months)
Never	5.4	1.0	5.0
Once a week	5.3	1.6	3.0
Few times a week	10.6	1.0	10.0
Once a day	61.9	71.5	67.3
Twice or more a day	16.3	24.7	14.7

Table 2:Professional-led (Brushing frequency)

	Baseline	Intervention	Follow up (2 months)
Never	5.6%	0%	1.3%
Once a week	5.1%	09%	1.0%
Few times a week	11.1%	2.3%	8.0%
Once a day	61.7%	52.3%	58.0%
Twice or more a day	17.1%	36.3%	31.3%

Table 3: Peer-led (fluoride prevention)

	Baseline	Intervention	Follow up (2 months)
Not Important	1.7%	0.4%	1%
Little Important	2.0%	2.3%	1.33%
Some Important	2.5%	1.8%	6%
Important	11.7%	19.7%	19.3%
Very Important	7.9%	30%	6.0%
Don't Know/Not sure	65.2%	34.2%	64.6%
Refused to respond	9.2%	11.5%	1.67%

Table 4:Professional-led (fluoride prevention)

	Baseline	Intervention	Follow up (2 months)
Not Important	1.3%	2.3%	0.3%
Little Important	1.6%	6%	0.3%
Some Important	2.9%	7%	4%
Important	11.3%	11.3%	11.6%
Very Important	8.3%	56.6%	28%
Don't Know/Not sure	65.6%	15%	57%
Refused to respond	8.8%	0.6%	0

DISCUSSION

The aim of this study was to compare the effect of peer and professional-led education on the oral health knowledge, attitude and practices of child bearing age females. The present study was randomized controlled trial including six hundred study participants from two different BHUs who were randomly selected with the help of LHWs and divided into two groups (300 from each BHU). Oral health education was given to all females; one group was educated through professionals (professional-led group) and the other group was educated through LHWs (Peer-led group). Oral examination was done for assessing DMFT and was done with wooden toothpicks and spatulas under direct sunlight.

This randomized controlled trial is first of its kind conducted in Pakistan that compared the effects of peer and professional led oral health education on knowledge, attitudes and practices of child bearing age females. A previously conducted cross-sectional study concluded no difference in peer and dentist (professional) led education. Similarly a cross-sectional study in India reported that 38.5% brushed twice a day and 58.9% brushed once a day. While in this study 62% brushed once a day, 16.3% brushed twice a day and 10.6% brushed more than twice a day[16]. The findings of use of fluoride compared with the knowledge regarding role of fluoride in prevention of dental problems, (participants were divided into three groups), at baseline only 13% children in group 1, 9% in group 2, and 12% in group 3 had the correct knowledge. This trial

showed 24.1% at baseline, 82% at intervention and 40% participants who knew the role of fluoride in preventing dental problems. Positive effects of oral health education were seen on gingival bleeding scores, oral health behavior of children, and on oral health knowledge and attitudes of mothers when observed in a school-based oral health education programs in China when given by experts[17], similar results showed up in this study where when 58% of the population stated to brush their teeth once a day and 31.3% participants brushed twice a day when educated by professional (researcher herself). Comparison of peer and professional-led training in basic life support for medical students demonstrated that peer led education is feasible and as effective as health professional-led training[18].Further studies are recommended with more than one follow-up to determine the role of repeated reinforcement on the knowledge, attitude and practices of females of child bearing age.

CONCLUSION

Improvement in the oral knowledge, attitude and behavior was seen in the study participants of both the peer and professional group. No statistically significant improvement was seen but overall the target population in professional group showed more positive change in their knowledge, attitude and behavior.

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