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A Comparative Study on Traditional and Skill Based Health Educational Intervention on Hand Washing Among Secondary School Children in Bangladesh

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ABSTRACT

Thiscomparative study was hypothesized that there will be a difference in knowledge score after implementation of Skill Based Health Education (SBHE) and Traditional Health Education (THE) as educational intervention method for promoting hand washing among school children.

228 children received education in this study on hand washing by using the respective methods. Overall knowledge score (percentage) showed significant increase in both groups [THE (Baseline vs. Final, M±SD, 36±8 vs. 74±14, p<0.001) and SBHE (37±9 vs. 81±12, p<0.001)]. SBHE showed a significantly higher overall and individual knowledge score (p<0.001) as compared to THE at the final time point. SBHE seemed to be better to THE as a short-term interventional tool for promoting health education on hand washing among secondary school children.

KEYWORDS Traditional Health Education, Skill Based Health Education, Hand Washing, School children

Introduction:

Hygienebehaviorleaded by health educational intervention is receiving increasing attention as an important strategy for preventing fecal-oral disease transmission in developing countries. However, education programs are sometimes notorious for generating long lists of 'good' behaviors in the hope that these will be adopted by the target group and consequently lead to reduced disease transmission.[1]

Educational intervention through Traditional Health Education (THE) is the usual practice which tends to emphasize academic knowledge, but do not sufficiently apply curriculum content to real-life situations.In recent years, a relatively demanding and costly technique, termed as Skill Based Health Education (SBHE), is newly introduced, and somewhere termed as life skills-based education. Life skills-based education focuses on the development and real life applications of knowledge, attitude, & skills and makes use of participatory and interactive teaching and learning methods that support people/children to acquire and practice good health behaviors.[2]

Hand washing have been identified as one of the key hygiene behavior which can reduce the occurrence of diarrheal diseases by 14-40%.[3,4] There are still a gap exist between hand washing knowledge and self-reported practices after educational intervention.[5]Effective educational intervention can reinforce positive attitude and behavior. Unfortunately, the evidence and documentation describing the effectiveness of health education programs remains weak.[6]This has also led to a lack of empirical evidence for selecting the behaviors that are most effective in disrupting disease transmission in any given environment.In line of this, comparative studies between THE and SBHE methods on hand washing are relatively rare, particularly in developing countries. Moreover, children are eager to learn and schools are important places of learning for them. So, the present study was undertaken to test the hypothesis that SBHE is a better method for promoting hand washing in school going children as compared to the THE method.

Methods:

A non-randomized trial was conducted among school going children of two schools-BADC School and Mohammadpur Girl's School of Dhaka city in Bangladesh. Both the schools were female based where one group consisted with 109 students of BADC School was considered for SBHE intervention and another group consisted with 119 students of Mohammadpur Girl's School was allocated toTHE intervention. The study subjects included all school going children studying in class six and seven and willing to participate.

Data were collected in two phases (pre- and post-intervention) from all the students by pre-tested and structured questionnaire through self-administered method. Post-intervention data were collected after 45 days of pre-intervention data collection. The components of knowledge on hand washing were: necessity, appropriate timing, materials and techniques of hand washing. The ten steps of hand washing recommended by the WHOwas considered as the techniques of hand washing.[7] Socio-demographic information was obtained by sending a separate questionnaire to the home of each student.

After baseline data collection, two types of one-day long educational intervention on hand washing were conducted in two schools. The THE was delivered via lecture method and SBHE included lecture method and in addition distributingleaflet containing hand washing message, demonstratingthe techniques of hand washing among the students and displaying a video clip entitled Crawford video clip. Using video clip is suggested as a more effective electronic media that can improve health behaviors in young people.[8]

During analysis, 4 items were included in assessing overall knowledge of hand washing. Each correct response was assigned a score of one and incorrect response a score of 0. Thus, for 4 items, the overall knowledge of hand washing, the maximum attainable score was 4 and the minimum was zero. Statistical significance was defined at alpha level of 0.05.

Results:

The M (±SD) of total knowledge score (expressed as percentage) of pre-intervention were 36 (±9) & 37 (±8) respectively amongTHE and SBHE groups.Total knowledge score showed significant increase (p<0.001) after educational intervention in both the groups and the scores were 74 (±14) & 81 (±12) respectively,but SBHE showed higher knowledge score as compared to THE at the final time point. (Table 1)

Table 1: Effect of both type of intervention on total knowledge score (expressed as percentage) of hand washing

Groups	Pre-intervention	Post-intervention	p
	Mean±SD		
THE (n=119)	36±9	74±14	0.001*
SBHE (n=109)	37±8	81±12	0.001*
p	0.060	0.500	

*SD=standard deviation; *=significant; performed paired and independent t test*

The M (±SD) of post-intervention knowledge score on individual component of hand washing addressed as necessity, appropriate timing, and appropriate techniques showed significant increase (p<0.001) after educational intervention in both THE and SBHE groups except the component appropriate materials. However, between the last scores of both groups, SBHE showed significantly higher score as compared to THE in post-assessment. (Table 2)

Table 2: Effect of both type of Intervention on individual components of knowledge score (expressed as percentage) of hand washing

Groups	Pre-intervention	Post-intervention	p
	Mean±SD		
2.1 Necessity			
THE (n=119)	33±6	75±20	0.001*
SBHE (n=109)	40±15	76±18	0.001*
p	0.416	0.139	
2.2 Appropriate timing			
THE (n=119)	45±14	67±20	0.001*
SBHE (n=109)	40±11	84±15	0.001*
p	0.067	0.002*	
2.3 Appropriate materials			
THE (n=119)	94±23	97±15	0.207
SBHE (n=109)	99±9	100±0	0.32
p	0.001*	0.001*	
2.4 Appropriate techniques			
THE (n=119)	1± 8	71±28	0.001*
SBHE (n=109)	0	81±27	0.001*
p	0.001*	0.139	

*n= number of subjects; SD=standard deviation; *=significant;performed paired and independent t test*

Table 3: Effect of both types of Intervention on total knowledge score (expressed as percentage) of hand washing according to background characteristics of study subjects

Parameters	THE Group (n=119)			SBHE Group (n=109)		
	n (%)	Pre-intervention	Post-intervention	n (%)	Pre-intervention	Post-intervention
		Mean±SD			Mean±SD	
Father's Age						
<40	46 (39)	37±10	73±15	52 (48)	37±8	83±11
>40	73 (61)	36±9	74±13	57 (52)	37±8	78±13
Father's education						
Primary to higher secondary	41 (34)	35±8	77±15	90 (83)	37±8	81±12
Graduate & above	78 (66)	37±10	72±13	19 (17)	37±8	79±12
Father's occupation						
Service	63 (52)	35±8	71±14	78 (72)	37±9	81±12
Business	56 (48)	37±10	76±13	31 (28)	36±6	79±12
Mother's Age						
<35	75 (63)	37±9	73±14	64 (59)	37±8	81±14
>35	44 (37)	35±10	74±14	45 (41)	36±8	80±10
Mother's education						
Primary to higher secondary	84 (71)	36±9	74±14	107 (98)	38±8	81±12
Graduate & above	35 (29)	37±9	72±11	2 (2)	35±8	72±4
Mother's occupation						
Housewife	111 (93)	36±9	74±14	96 (88)	37±8	80±12
Service	8 (7)	37±9	71±11	13 (12)	36±9	85±13
Family type						
Nuclear	93 (78)	35±9	74±14	92 (84)	37±8	81±13
Combine	26 (22)	39±9	71±13	17 (16)	38±6	80±10

n= number of subjects; SD=standard deviation

Discussion:

This study reflects, using of leaflet and video clip increase more knowledge score among SBHE group compared to the THE.Similar finding found in another study conducted in Finland where lecture method with extra-curricular activities accepted as most positive method than other methods used in this study. [9]Evidence reflected that SBHE can change behavior in sensitive and difficult areas where knowledge based health education has failed[10]Although the educational components of the studies were sexuality and HIV/AIDs [11, 12], substance abuse[13] and drug abuse[14] which were different from our study, but all studies reflected that SBHE method is more effective than teaching knowledge alone.

In Bangladesh, many promotional campaigns are underway since the last few years to promote the sales of liquid hand washing materials.[15]In accordance,the current study exposed that the pre-intervention knowledge scores of appropriate materials of hand washing were observed very high in both THE and SBHE groups which were slightly increase after educational intervention on both groups. But knowledge score of SBHE group was found significantly higher as compared to the THE because of applying different educational materials as well as demonstration of hand washing.

Since proper hand washing requires the appropriate techniques of hand washing but the score of knowledge on this indicator found exclusively low in this study. It is encouraging to note that improvement of knowledge score was found in both the groups specially in SBHE group because of using different educational materials and conducting hand washing demonstration session in this group.Another study conducted in India, found substantial increases in hand washing with soap by using a scalable intervention included community and school based events incorporating an animated film, skits and public pledging ceremonies.[16]

Conclusion:

SBHE has been identified as a better method than THE for health educational intervention which offers a new approach to equipping children and young people with the knowledge, attitude and skills that they need to take positive actions to create or maintain hygienic conditions. The scope of skills based health education means that it can be applied to a wide range of areas, not only in hand washing, but also including STD and HIV/AIDS prevention, substance abuse and areas where knowledge attitude and skills play a critical role in combating disease and promoting a healthy lifestyle for children and young people. Moreover, the scrutinize factors of these two methods need to observe critically on longer term to improve learning and better health.

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