

# Impact of Educational Intervention to Prevent Infectious Diseases in Community Medicine

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**Abstract:** The value of health education to the community about contagious diseases was highlighted as early as 1988 when a manual published by the World Health Organization pointed out that no other media creates such vibrant interest as tv. Television programs such as Sesame Street. We performed a comprehensive search of a large number of computerized databases restricted to the English language from inception to November, 2016 (MEDLINE, CINAHL, and Cochrane Network). Search terms were related to education, infectious diseases, population, and community. This review showed that the educational interventions show efficacy for the prevention of infectious disease in community, studies using validated educational tools and that are clearly described, easily reproducible, and widely generalizable are needed. different approaches of educational showed a beneficial result such those trails among children and schoolchildren which evaluate the video images, and training programs in hygiene which showed a significant reduce of many infection diseases among the same population.

**Keywords:** World Health Organization, MEDLINE, CINAHL, Cochrane Network.

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## 1. INTRODUCTION

Infectious diseases continue to trigger illness and deaths to millions worldwide, despite advances in public health over the last 100 years (1).

The value of health education to the community about contagious diseases was highlighted as early as 1988 when a manual published by the World Health Organization (1) pointed out that no other media creates such vibrant interest as tv. Television programs such as Sesame Street (2) Between the Lions, (3) and Blue's Clues,(4) have shown the favorable results on cognitive development of young kids. In the school setting, academic videos have actually shown efficient interventions in altering student habits (5,6) and enhancing understanding and mindsets (7). In addition, the value of involving schools to strengthen health education has been acknowledged (8,9). The World Health Organization and other organizations have introduced worldwide school health programs (Global School Health Initiative in 1995 and Focusing Resources on Effective School Health [FRESH], which look for to strengthen health promotion and educational activities in schools at the local, national, and global levels (10).

The core function of academic community medication is to study the health and disease in defined communities, determine their health requires, plan and evaluate programs so as to successfully meet their health needs. However, in the present age of globalization, social policies at the global and nationwide level have a profound impact on the health of neighborhoods (2,11).

Handwashing is the most crucial and efficient measure of infection avoidance (12,13). Hydroalcoholic gels or hand sanitizers are excellent virucides and bactericides against intestinal and respiratory pathogens (14,15,16). Previous studies (12,19) at schools that follow hand hygiene programs with hydroalcoholic gel found a 19.1% to 50% decrease of these infections. Research studies (20,21,22) on handwashing programs utilizing hand sanitizer carried out in schools observed that absenteeism triggered by gastrointestinal infections (GI) decreased by 9% to 44% and from 6% to 44% for breathing infections (23). Hand hygiene has actually likewise been specifically recommended for avoidance of illness with pandemic potential, such as the influenza pandemic (24). Specific biomedical methods of preventive medicine acquired pre-eminence with the development in the understanding of biological causes of illness (microorganisms, nutrients, chemicals). Hence, in the later part of 19th century, the practice of health, that stressed particular preventive measures such as personal cleanliness and environmental sanitation, became the main tool of public health for avoidance and control of infectious diseases.

## 2. METHODOLOGY

Search Strategy. We performed a comprehensive search of a large number of computerized databases restricted to the English language from inception to November, 2016 (MEDLINE, CINAHL, Cochrane Network). Search terms were related to education, infectious diseases, population, community. In addition, we perused the references from all included studies and enlisted the help of a librarian to ensure a thorough search. Inclusion Criteria. We included all randomized controlled trials, controlled before-and-after studies, and interrupted time-series analyses, all reviews including previous systematic reviews. Studies that examined the effectiveness of an educational intervention on infectious diseases in community medicine

## 3. RESULTS AND DISCUSSION

We have included studies evaluated the impact of the community based education on preventing infectious diseases. Following we demonstrate the identified and included studies in our review.

First we Identified several systematic reviews studies have examined proof of interventions to prevent contagious diseases; (22,24-33) present evidence is appealing but equivocal for the efficiency of hand hygiene interventions in avoiding RT and GI infection. 4 SRs have actually consisted of research studies assessing interventions in educational settings alongside other settings; (22,26,27,29) 2 concentrate on RT infection,( 22,29) 2 focus on diarrhoea avoidance (26,27). 2 of these are Cochrane reviews; (26,29) suggested that: "effort ought to be focused on lowering transmission from children through regular education at school on hygiene"

3 organized evaluations studies <sup>(30,31,33)</sup> focus specifically on studies among kids in educational settings. Nevertheless, one only consisted of hand sanitiser interventions;<sup>(31)</sup> another consisted of children 2-11 years of ages and is over a decade old <sup>(33)</sup>.

We have included one crucial research study <sup>(34)</sup> that examine the impact of education on hand-hygiene in prevention of gastrointestinal transmittable illness, revealed that making use of nonantibacterial soap combined with hand-hygiene education showed the greatest protective result on respiratory illness rates (RR = 0.49; 95% CI = 0.40, 0.61), however information were readily available from only this research study (**Table 1**) <sup>(34)</sup> The same research study analyzed the influence of using anti-bacterial soap with hand-hygiene education on breathing disease rates compared with no intervention in a control group, and the RR for this was close to that of using nonantibacterial soap with education. The pooled price quote from 4 research studies in which hand-hygiene education alone was taken a look at showed that this intervention was only moderately protective (RR = 0.86; 95% CI = 0.73, 1.00). Making use of antibacterial soap compared with making use of nonantibacterial soap had no effect on respiratory illness rates (RR = 1.00; 95% CI = 0.84, 1.19; **Table 1**) <sup>(34,35)</sup>.

**Table1: Association Between Specific Hand-Hygiene Interventions and infectious diseases Outcome** <sup>(34),(35)</sup>

Intervention	Gastrointestinal Illness (N = 24)		Respiratory Illness (N = 16)		Combined Illnesses (N = 10)	
	No. of Studies	RR <sup>a</sup> (95% CI)	No. of Studies	RR <sup>a</sup> (95% CI)	No. of Studies	RR <sup>a</sup> (95% CI)
Education vs control	7	0.69 (0.50, 0.95)	4	0.86 (0.73, 1.00)	NA	NA
Nonantibacterial soap with education vs control <sup>b,c</sup>	6	0.61 (0.43, 0.88)	1	0.49 (0.40, 0.61)	2	0.94 (0.74, 1.18)
Antibacterial soap with education vs control <sup>b,c</sup>	2	0.59 (0.33, 1.06)	1	0.50 (0.40, 0.61)	NA	NA
Antibacterial soap vs nonantibacterial soap <sup>c</sup>	2	0.99 (0.54, 1.83)	2	1.00 (0.84, 1.19)	1	0.96 (0.71, 1.30)
Alcohol-based hand sanitizer vs control	NA	NA	NA	NA	2	0.74 (0.59, 0.93)
Alcohol-based hand sanitizer with education vs control <sup>b</sup>	5	0.77 (0.52, 1.13)	6	0.93 (0.84, 1.03)	3	0.79 (0.67, 0.93)
Benzalkonium chloride-based hand sanitizer vs control	2	0.58 (0.30, 1.12)	2	0.60 (0.45, 0.81)	2	0.59 (0.45, 0.78)

<sup>a</sup>Pooled or single-study RRs.

<sup>b</sup>Indicates a layered intervention.

We Included three studies that investigated the impact of education in prevention some serious infectious diseases and emphasizes the importance of setting up prevention steps, consisting of health education, that can play a considerable role in curbing this type of transmission. Among this study<sup>(36)</sup> took a look at the use of randomized clinical trials to evaluate control and prevention measures for HIV infection. Also this research study looked at homogeneity, and the number and size of the neighborhoods, and concluded that the power of community-randomized trials can be improved by selecting homogeneous neighborhoods or stratifying the communities prior to randomization<sup>(36)</sup>.

Pezzotti and colleagues in the second trial were interested in establishing a more accurate estimate of the prevalence of HIV infection than could be ascertained from a single data source<sup>(37)</sup>. They cross-linked prevalence information from four sources and by applying capture-- regain method conclude that these techniques can improve the precision of quotes of the prevalence of HIV infection.

3rd study<sup>(38)</sup> was concerned about improving the knowledge of the timing of transmission of tuberculosis (TB) in populations. By comparing the molecular analysis of Mycobacterium tuberculosis organisms and conventional epidemiological info and using the capture-- regain approach of analysis they had the ability to establish a better estimate of the timing of transmission of TB. This innovation improves our capability to define the specifications of the spread of TB, which can have an effect upon executing control and prevention measures<sup>(38)</sup>.

#### 4. CONCLUSION

This review showed that the educational interventions show efficacy for the prevention of infectious disease in community, studies using validated educational tools and that are clearly described, easily reproducible, and widely generalizable are needed. different approaches of educational showed a beneficial result such those trails among children and schoolchildren which evaluate the video images, and training programs in hygiene which showed a significant reduce of many infection diseases among the same population.

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