

Effective hand washing program nursing essay



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Acute respiratory disease and intestinal tract infections are the primary causes of morbidity and mortality among young children (Vivas et al., 2008). Annually, more than 3-5 million children aged less than 5 years pass away from diarrhoea and acute lower respiratory-tract infection (WHO, 2005 cited in Luby et al., 2005). Moreover, WHO (2010) estimated that diarrhoea and respiratory infection are responsible for 35% of child deaths. The huge majority of child mortality occurs among the world poorest populations in low and middle-income countries. Vivas et al. (2008) reported that 62% and 31% of all deaths in Africa and Southeast Asia, respectively, are caused by infectious disease. In Indonesia, the largest cause of infant mortality and children less than five years mortality are diarrhoea and pneumonia (31.4%, 23.8% and 25.2%, 15.5%) (Ministry of Health of Republic of Indonesia, 2007). According to the results of basic health research (2007) by MoH of Indonesia, 26% cause of death in the countryside in the age group 5-14 years are diarrhoea and pneumonia. This indicates there must be a comprehensive treatment for age groups that are vulnerable to infectious diseases can be protected.

Although everyone is susceptible to the transmission of disease, but children as future generations are one group that is at biggest risk (Hezel, Bartlett, Hileman, Dillon, & Cessna, 2000 cited in Vessey, Sherwood, Warner, & Clark, 2007). Children who are at school age are very vulnerable because infectious diseases most affect younger children (Vivas et al., 2008). At this age they will blend with the environment outside their home that does not allow parents to keep their attention. Behaviours' of children such as do not want to lose time to play or toilet facilities are smelly and dirty increase the risk

for infection. With their vulnerability, children will be very easily affected by diseases caused by infection.

A previous study by Luby et al. (2005) reported that infectious diseases are common among school-age children are diarrhoea, acute lower respiratory infection and impetigo. As a result of this disease children of school age are not able to follow the lessons in school due to absences. Absenteeism is a chief problem among school-aged children, with approximately 75% of all school absences endorsed to illness. Illness-related absences have been shown to escort to both negative educational and economic outcomes (Lau et al., 2010). Moreover, community-acquired infections are a major reason for absenteeism among elementary school students' mentioned by Dyer, Shinder, & Shinder, 2000; Hammond, Ali, Fendler, Dolan, & Donovan, 2000; McGuckin, & Ali, 2002 cited in Vessey et al., 2007). Absenteeism due to infectious diseases will usually increase during the winter (Adams, Hendershot, & Marano, 1999 cited in Vessey et al., 2007). Moreover, Afroza (2007) argued that washing hands with soap right to reduce the risk of diarrhoea, avian influenza, pneumonia and other diseases.

Base on the stages of development according to Erikson (1968), school-age children referred to as the apprenticeship of live. This stage is the period of learning and mastering more basic skills models (Erikson, 1968) so it is appropriate to introduce to them about how to avoid infectious diseases. Children are more interested to learning and are very possible to adopt healthy behaviours at a younger age. Due to school children is the symbolism of the unification of all components of the family and society (Yuhanna, 2010), they can also being agents of adjust by spreading what

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they have learned in school to their family and community members (Vivas et al., 2008). From the above description then hand washing program in school-age children are very precise and strategic. If hand washing is taught from the beginning then certainly hand washing will become a habit until the end of their lives.

Hand washing is very important technique was introduced to the school-age children. To get the best health benefit out of it, it is very important to consider the proper ways of washing hands with soap and running water (if possible). Several previous studies conducted in Indonesia found that although most of the people know about the importance of washing hands with soap but very few people (5%) know how to do it properly (Afroza, 2007). Hand washing with soap has been ranked the most cost-effective intervention for control of disease in the worldwide (Judah et al., 2009). A study conducted by Lau et al. (2010) found that hand washing interventions have been significantly reduce illness-related absences in elementary school students and significantly reduce a subset of illness-related absences (i. e. gastrointestinal illnesses).

Hand washing is very effective programs conducted in schools. As a community, the school consists of various elements in them such as teachers, parents, students and the community around the school. Certainly the role of the other party is very important and needed. Then to involve other parties such as teachers, parents, community or society, strategic activities that possible to be implemented are community empowerment and health promotion (MoH of Indonesia, 2010). Furthermore, UNICEF (2006) stated that in order to create effective relationships need to do the

communication and collaboration between schools, families and community. The affiliation of positive attitudes toward hand washing and the programs' effectiveness in imparting knowledge helped to create a sustained social norm of hand washing among many children in disparate locations (Rosen, Zucker, Brody, Engelhard, & Manor, 2009).

Furthermore, to discuss many more in detail, the phenomena above will be describe into several topics such as definition, summarise and analyze, critically analyze opinion, and synthesize of phenomena into thesis plan.

Definition

In accordance with the phenomenon found in my interest area then the next explain about the appropriate definitions as follows:

Hand washing

Hand washing is washing hands with plain or antimicrobial soap and water (WHO, 2009). Hand washing is cleansing the hands of any dirt, starting from fingertip to elbow and arm in a certain way as needed (Subroto, 1987 cited in Yuhanna, 2010). Another definition by Potter (2005 cited in Yuhanna, 2010) hand washing is the rub with soap in with the whole hand skin surface with a strong and compact which is then rinsed under running water. Related to the definition above, in my opinion the definition of hand washing is practice of washing hands with soap by elementary school students in grade 1st - 3rd .

Elementary school

According to Ministry of Education of Indonesia (2010) elementary school is a form of formal education unit conducting public education on basic

education. Primary education aims to build a foundation for the growth potential of learners to become a human being: a healthy, independent, and confident. Public school or other equivalent form consisting above 6 (six) levels of classes, namely grade 1 (one), grade 2 (two), grade 3 (three), grade 4 (four), grade 5 (five), and grade 6 (six). As far as my knowledge, elementary school is operationally defined as the place where students' 1st - 3rd grades doing hand washing activities.

Effective

According to businessdictionary. com effective is the degree to which objectives are achieved and the extent to which targeted problems are solved. Effectiveness is determined without reference to cost and, whereas effectiveness means “ doing the right thing”. Moreover in dictionaryreference. com effective is adequate to accomplish a purpose; producing the intended or expected result: effective teaching methods. Based on the definition before, for this phenomenon effective is how grade 1st - 3rd elementary school students to wash hands in accordance with quality of hand washing.

Program

According to oxforddictionary. com definition of program is a planned series of future events or performances. The synonym of program is a set of related measures or activities with a particular long-term aim. Moreover in Cambridge dictionaries online program defined as a plan of activities to be done or things to be achieved. Program is operationally defined as a series of hand-washing activities made by the community school for students' grade 1st - 3rd.

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Summarise and analyze

Based on previous studies obtained, further in this paper will describe summarise and analyze six components, namely definition, objective, conceptual framework, research design, samples, main result and limitation.

Objective

The purpose of this study was to identify, describe, explain, or predict the solution to a situation or a phenomenon that occurs (Hamid, 2007). As the best of my literacy, all research studies have clearly set goals. Based on 28 studies were found, the purpose of the studies can be divided into six categories. First, it aims to determine hand washing practice behaviour (Quintero, Freeman, & Neumark, 2009; Drankiewich & Dundes, 2003; Larson, Aiello, & Cimiotti, 2004; Aslan et al., 2006; Larson & Lusk, 2006; Yuhanna, 2010; Arfianti, 2010). In general the researchers would like to know about the implementation of hand washing compliance in various settings such as health care setting and in education setting. A study conducted by Quintero et al. (2009) further explains that by knowing about the hand washing behaviour will be able to identify bottlenecks in the implementation of proper hand washing practises. Meanwhile, Yuhanna (2010) connects the hand washing behaviour with parenting parents.

Second, it aims to assess affect of hand washing (Luby et al., 2005; Nandrup-Bus, 2011; Thumma, Aiello, & Foxman, 2009). Study conducted by Luby et al. (2005) dan Thumma et al. (2009) associate hand washing with incidence of acute respiratory infection, impetigo and diarrhoea. While,

Nandrup-Bus (2011) study associate hand washing with actual absenteeism because of infectious illness.

Third, the objective is to determine hand washing barriers (Ramos, Schrader, Trujillo, Blea, & Greenberg, 2010). To the best of my knowledge, there are three major barriers in hand washing practice such as facilities, supplies and supports. Specifically, Ramos et al. (2010) conduct studies about supplies barrier such as: soap and paper towel/hand dryer.

Fourth, to get an idea of application of various handwashing product (Fuller et al., 2011; Morton & Schultz, 2004). Fuller et al. (2011) and Morton & Schultz (2004) each using a technique gloving and washing hand by alcohol gel. Based on guidelines on hand hygiene in health care by WHO (2009) to determine an effective hand washing products for hand hygiene should be carried out laboratory tests. Meanwhile, the two studies above are not in actual laboratory tests. Fuller et al. (2011) only to find whether hand hygiene compliance differed when gloves were worn and Morton & Schultz (2004) linking the use of alcohol gel with reducing absenteeism secondary to infectious illness.

Fifth, to evaluate knowledge, attitudes and behaviour of hand washing in community through the provision of education and promotion (Vivas et al., 2008; Lau et al., 2010; Sjoberg & Eriksson, 2010; Rosen et al., 2009; Nandrup-Bus, 2010, Tousman et al., 2007; Zain, 2010). According to WHO (2009) area of education and promotion is very appropriate to be applied in both developed and developing countries. Especially in the developing countries, conduct cost-benefit, cost utility and cost-effectiveness very useful

for improving hand hygiene. In line with Curtis et al. (2001) education or promotion program can change behavior and to be effective if built on local research, use locally appropriate channels of communication repeatedly and for an extended time. This is consistent with studies conducted by Lau et al. (2010) and Tousman et al. (2007), each of which carry education and promotion by given repetitive instruction and multiple week learner centered.

Finally, it aims to evaluate effectiveness of hand washing (Curtis et al., 2001; Judah et al., 2009; Park, Cheong, Son, & Ha, 2010; Asiedu, Van-Ess, Papoe, Asiedu, & Anderson, 2011; Dunn, Palombo, & Salamone, 2002; Vessey et al., 2007; Guinan, McGuckin, & Ali, 2002; Snow, White, & Kim, 2008). Based on the best of my literacy, effectiveness of hand washing related to quality of hand washing. Larson & Lusk (1985) stated that quality of hand washing consist of five variables such as appropriateness, frequency, agent use, duration and technique. This statement are consistent with previous studies that conducted by Curtis et al., 2001; Judah et al., 2009; Park et al., 2010; Asiedu et al., 2011; Snow et al., 2008. On the other hand, reported that hand washing effective if able to reducing and subsequent absenteeism and no difference between different hand washing facilities (free wash hand basins and manual tap operated basins) in reducing microbial flora of hands (Dunn et al., 2002; Vessey et al., 2007; Guinan et al., 2002).

Conceptual framework

From 28 research articles, several theoretical frameworks have been used, explicitly or implicitly, by the reviewed studies as the basis of intervention design and implementation. Although most articles failed to give a clear

description of the theoretical framework behind the intervention design, based on the description of program procedure, I have identified the use of the following theoretical approaches: health belief model (Park et al., 2010; Morton & Schultz, 2004), behavioural change theory (Tousman et al., 2007) and Precede Proceed model (Zain, 2010; Yuhanna, 2010).

The Health Belief Model (HBM) is a psychological models that effort to explain and predict health behaviors focusing on the attitudes and beliefs of individuals (University of Twente, n. d.). Otherwise, Remocker & Shea (2011) highlighted that HBM attempts to explain the thought process behind individual's decisions related to health behaviour change and maintenance. This model suggests that individuals determine the feasibility, benefits and costs related to an intervention or behaviour change based on the following constructs: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy. Park et al. (2010) used HBM to examine the perception, motivating factors, and behaviour related with the use of hand washing to prevent H1N1 influenza transmission. On the other hand, Morton & Schultz (2004) used HBM to understand hand washing knowledge and behaviours in the school setting and how the children practice this behaviour both inside and outside the school environment. In these previous studies the use of HBM is appropriate because useful in understanding that perceived susceptibility to illness due to improper hand washing behaviours is necessary before commitment to changing or adopting the hand washing behaviour can occur.

Tousman et al. (2007) used a model of health behavior change developed by Tousman & Zeitz (2003). According to this model, behavior change is a
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function of factors related to the participants involved in the intervention, the structure of the intervention, and the techniques used in the intervention (Tousman et al., 2007). The participants factor refers to characteristics of the individual attempting to change behavior represented by 2nd grade students because they have a semantic knowledge base that allow them to accurately understand simple infectious disease principles. The structure of the intervention used four week 30 minute sessions. In this study, four types of learner-centered teaching techniques were used those are learner-centered interactive discussions, skill training, students perform activities and self monitoring homework assignment.

The Precede-Proceed model describes factors influencing health outcomes and provides a comprehensive structure for health needs assessment, program design, implementation, and evaluation of health promotion programs (Hu, Wallace, & Tesh, 2010). This model posits that predisposing, reinforcing, and enabling factors have an effect on behaviour and the environment (Huang & Goran, 2003). The Precede-Proceed model consist of two phases, firstly is Precede phase and secondly Proceed phase. The Precede phase include social, epidemiological, behavioural and environmental, education, ecological, administrative and policy assessment (Hu et al., 2010), continuing by Proceed phase to the implementation and evaluation of the intervention (Huang & Goran, 2003). Yuhanna (2010) find patterns of parenting as a reinforcing factors influencing hand washing behaviour in school-age children. Whereas, Zain (2010) identified predisposing factors which is education related to hand washing behaviour in school-age children. Zain (2010) stated that health education with lecture

method, demonstrations and leaflets can affect hand washing behavior in school-age children. Both studies by Yuhanna (2010) and Zain (2010) only implement Precede phase, this may raise the question whether they can be specified using Precede – Proceed model or not.

A theoretical framework is essential at the beginning of a study to underpin research question and select variables as the end of a study to interpret the outcome (Kitrungrote & Cohen, 2006). Furthermore, Bordage (2009) stated that conceptual frameworks help to understand problems or phenomena's that happen. Different conceptual frameworks emphasise different aspects of the problem or elements of the solution (Bordage, 2009). Thus, it can be concluded that the conceptual framework is essential. Researchers must determine the conceptual framework that will be use as a basis for research to be conducted.

Research design

According to Burns & Grove (1993) cited in Hamid (2007) quantitative research is used to describe variables, examine the relationship between variables, and determine cause and effect interactions between variables. Each type of study design has advantages and disadvantages. Sastroasmoro & Ismael (2008) states that the best design is to answer the research question accurately, effectively and efficiently. From 28 research studies, 25 studies used a quantitative study design and 3 used a mixed quantitative-qualitative design (Asiedu et al., 2011; Vessey et al., 2007; Tousman et al., 2007). None of the studies used a purely qualitative design. Among of studies that used quantitative study design, 2 studies used descriptive approach (Larson & Lusk, 2006; Thumma et al., 2009), 13 studies used

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experimental approach (Luby et al., 2005; Dunn et al., 2002; Lau et al., 2010; Guinan et al., 2002; Sjoberg & Eriksson, 2010; Nandrup-Bus, 2011; Rosen et al., 2009; Nandrup-Bus, 2010; Aslan et al., 2006; Ramos et al., 2010; Snow et al., 2008; Morton & Schultz, 2004; Zain, 2010) and 10 studies used observational approach (Curtis et al., 2001; Fuller et al., 2011; Judah et al., 2009; Drankiewich & Dundes, 2003; Larson et al., 2004; Vivas et al., 2008; Park et al., 2010; Quintero et al., 2009; Yuhanna, 2010; Arfianti, 2010). Among of 10 studies that used observational approach divided into 5 studies by cross sectional and 5 studies by longitudinal time dimension.

Thirteen studies (46%) of the 28 studies used experimental design and 10 studies (36%) used observational design. This can be explained that in order to find the strongest causal relationship is to use an experimental study. While observational studies have the capacity of a causal relationship is weaker, but more widely used because it is relatively inexpensive and simple (Sastroasmoro & Ismael, 2008).

Sample

To the best of my knowledge, sample related to subject, sample size, places of setting, and instruments that used to collect data. According to 28 studies reported that there are three categories of subject such as community, students in several setting and health care providers. Most of the subject in previous studies are students (Vivas et al., 2008; Asiedu et al., 2011; Vessey et al., 2007; Quintero et al., 2009; Lau et al., 2010; Guinan et al., 2002; Morton & Schultz, 2004; Nandrup-Bus, 2011; Nandrup-Bus, 2010; Tousman et al., 2007; Snow et al., 2008; Ramos et al., 2010; Yuhanna, 2010; Zain, 2010; Park et al., 2010; Drankiewich & Dundes, 2003; Thumma et al., 2009; <https://assignbuster.com/effective-hand-washing-program-nursing-essay/>

Aslan et al., 2006; Rosen et al., 2009) followed by health care providers (Fuller et al, 2011; Sjoberg & Eriksson, 2010; Larson & Lusk, 2006; Arfianti, 2010; Larson et al., 2004) and community (Curtis et al., 2001; Judah et al., 2009; Luby et al., 2005; Dunn et al., 2002). The selection of the student as a subject most closely related to two things: the school age group is susceptible to diseases caused by infection (Hezel et al., 2000 cited in Vessey et al., 2007; Vivas et al., 2008) and characteristics of development phase of school age (Yuhanna, 2010). School-age children is the great imitator, they would learn to behave as the behavior of those around them. So that when children are taught from childhood to live clean and healthy behaviors, such as washing hands before and after feeding, they will be familiar and accept become habits (Yuhanna, 2010). School children are the symbolism of the union of all components of the family and community. So in this case school-age children can serve as “ agents of change” for healthy behavior (Yuhanna, 2010).

The sample sizes of students range from 57 (Zain, 2010) to 2042 (Quintero et al., 2009). The sample sizes of health care providers range from 54 (Sjoberg & Ericksson, 2010) to 131 (Larson & Lusk, 2006). The sample sizes of community range from 32 (Dunn et al., 2002) to 198, 000 (Judah et al., 2009). Dunn et al. (2002) used 32 premises become samples divided into 13 premises with manual hand basins and 19 premises with hand free basins to investigate the effectiveness of hands free wash hand basins and manual tap operated basins in reducing microbial flora on food handlers' hands.

Related to the place of setting, school is the current setting that reported used followed by practise setting and community setting. At school setting

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consist of several specific setting. First in preschool (Rosen et al., 2009), second in elementary school (Vivas et al., 2008; Asiedu et al., 2011; Vessey et al., 2007; Quintero et al., 2009; Lau et al., 2010; Guinan et al., 2002; Morton & Schultz, 2004; Nandrup-Bus, 2011; Nandrup-Bus, 2010; Tousman et al., 2007; Snow et al., 2008; Ramos et al., 2010; Yuhanna, 2010; Zain, 2010), third in secondary school (Aslan et al., 2006) and fourth in college (Park et al., 2010; Drankiewich & Dundes, 2003; Thumma et al., 2009). At practice setting used wards in the hospital both inpatient and outpatient care unit (Fuller et al., 2011; Sjoberg & Eriksson, 2010; Larson & Lusk, 2006; Arfianti, 2010; Larson et al., 2004). At community setting used household, premises and natural setting (Curtis et al., 2001; Judah et al., 2009; Luby et al., 2005; Dunn et al., 2002).

From 28 research articles, several instruments have been used, explicitly or implicitly, single or combination used such as structure observation check list, questionnaire, wireless devices, several hand washing promotion, reviewing document, self report and combine of two or three instruments. Structure observation check list is the most widely used instrument (Curtis et al., 2001; Fuller et al., 2011; Dunn et al., 2002; Drankiewich & Dundes, 2003; Aslan et al., 2006; Ramos et al., 2010; Snow et al., 2008). Followed by questionnaire instrument that used within 6 studies (Vivas et al., 2008; Park et al., 2010; Quintero et al., 2009; Sjoberg & Eriksson, 2010; Larson & Lusk, 2006; Yuhanna, 2010). Four studies from Lau et al. (2010); Guinan et al. (2002); Nandrup-Bus. (2010); Morton & Schultz (2004) used reviewing document as instrument. Otherwise, several hand washing promotion instrument used by Luby et al. (2005); Rosen et al. (2009); Zain (2010).

Furthermore, studies from Judah et al. (2009); Thumma et al. (2009); respectively, used wireless devices and self report as the instrument. Another four studies used more than one instruments. Asiedu et al. (2011) used combination between questionnaire and structure observation check list, Vessey et al. (2007) mixed between several hand washing promotion and reviewing document, Larson et al. (2004) combined between structure observation check list and self reported: diary, Nandrup-Bus (2011) used questionnaire and reviewing document and Tousman et al. (2007) mixed multiple instruments such as training devices, handout, reviewing document and structure observation check list. As opposite, studies conducted by Arfianti (2010) did not mention what type of instrument used.

As additional, all studies have explained about the ethical consideration. It is very important because the main objective of the ethics of research is to provide optimum protection to the subject of research (Sastroasmoro & Ismael, 2008).

Main result

With regard to documenting outcome measure, in all 28 studies reported several outcomes measure, respectively, hand washing compliance, absenteeism rate, hand washing frequency, illness symptom, soap usage, glove usage, number of colonies, presence of hand washing supplies, hand washing disinfectant consumption and some of the studies used more than one type of outcome measure. Not only outcome measure, but also variables identified from all 28 studies.

Eight studies used hand washing compliance for outcome measure (Vivas et al., 2008; Quintero et al., 2009; Drankiewich & Dundee, 2003; Larson et al., 2004; Larson & Lusk, 2006; Yuhanna, 2010; Arfianti, 2010; Zain, 2010). Seven studies used absenteeism rate as outcome measure (Vessey et al., 2007; Lau et al., 2010; Guinan et al., 2002; Nandrup-Bus, 2011; Nandrup-Bus, 2010; Tousman et al., 2007; Morton & Schultz, 2004). Each of these two studies used soap usage (Curtis et al., 2001; Judah et al., 2009), hand washing frequency (Park et al., 2010; Snow et al., 2008), and illness symptom (Luby et al., 2005; Thumma et al., 2009). Each one a study that used glove usage (Fuller et al., 2011), number of colony (Dunn et al., 2002), presence of hand washing supplies (Ramos et al., 2010) and hand disinfectant consumption (Sjoberg & Eriksson, 2010). Some of the studies used more than one type of outcome measure. Asiedu et al. (2011) mixed hand washing practice and presence of hand washing facilities and supplies become outcome measure. In other hand, Rosen et al. (2009) combined belief, attitude, knowledge and self efficacy of preschool educator as outcome measure and Aslan et al. (2006) used level of knowledge and hand washing practice become outcome measure.

According to 28 studies reported several variables that influenced hand washing treatment, respectively demography variable included age, education level, social norms and social status, quality of hand washing variable, impact of improper hand washing, insufficient of hand washing facilities or inadequate hand washing supplies, social support or social relationship and hand washing barriers.

In eight intervention studies (Luby et al., 2005; Vessey et al., 2007; Lau et al., 2010; Guinan et al., 2002; Nandrup-Bus, 2011; Nandrup-Bus, 2010; Ramos et al., 2010; Morton & Schultz, 2004), the study group was divided into one experimental and one control group. Rosen et al., (2009) and Aslan et al., (2006) have a one group experimental. Two studies (Sjoberg & Eriksson, 2010; Zain, 2010) used pre test and post test questionnaires, whereas Snow et al., (2008) used one control group, two intervention group and post intervention questionnaires.

As the best of my literacy, there are both consistency finding and inconsistency finding highlight among 28 studies. According to variable demography, namely gender reported consistent that female were more likely to practice more frequent hand washing (Park et al., 2010; Thumma et al., 2009). Otherwise, Lau et al. (2010); Guinan et al. (2002); Nandrup-Bus, (2011); Nandrup-Bus, (2010); Tousman et al. (2007); Morton & Schultz, (2004) explained that intervention group has fewer episodes of sickness absence and fewer sickness day than control group. It's become inconsistency finding because as opposite Vessey et al. (2007) state that no significant differences were noted between the groups, indicating that the number of student absence was not appreciably affected by the hand cleansing technique used. Based on the important inconsistency finding of this study suggesting implication for further studies in order that focus on absenteeism rate affect by hand washing action.

Limitation

From 28 research articles, several limitations have been founded, explicitly or implicitly, single or multiple limitations. Several single limitations have to

consider when interpreting the studies. First, limitation in approach system used (Curtis et al., 2001; Judah et al., 2009; Park et al., 2010; Vessey et al., 2007; Drankiewich & Dundes, 2003; Larson et al., 2004). Curtis et al. (2001) stated that structured observation has limitation as a method of collecting data about human behaviour. Second, sample size and homogenous sample (Dunn et al., 2002; Sjoberg & Eriksson, 2010; Yuhanna, 2010; Zain, 2010). Dunn et al. (2002) informed that small number of manual wash hand basins available for the project become limitation of the study. Third, Quintero et al. (2009) explained that instrument, namely questionnaire has any bias toward over reporting of "proper" behaviors. Fourth, out come variable from the studies (Larson & Lusk, 2006; Morton & Schultz, 2004). Morton & Schultz (2004) stated that the outcome variable, absenteeism related to infectious illness could be perceived as bias in measurement because the school nurse served as data collector for the study. Fifth, 8 researchers were not clearly describe limitation in their studies (Luby et al., 2005; Asiedu et al., 2011; Nandrup-Bus, 2011; Rosen et al., 2009; Nandrup-Bus, 2010; Aslan et al., 2006; Snow et al., 2008; Thumma et al., 2009).

In other hand, 7 researchers stated that in their studies have more than one limitation (Vivas et al., 2008; Fuller et al., 2011; Lau et al., 2010; Guinan et al., 2002; Tousman et al., 2007; Ramos et al., 2010; Arfianti, 2010). Vivas et al. (2008) stated that in their study there are several limitations toward to approach system, sample, and study design. Whereas, Arfianti (2010) explained that there are two limitations, namely sample and instrument in her study.

Only five studies that explain the conceptual framework used (Park et al., 2010; Morton & Schultz, 2004; Tousman et al, 2007; Yuhanna, 2010; Zain, 2010), whereas 23 researchers did not explain the conceptual framework that used as the basis on their studies.

Critically analyze

Based on the summary above, it will further be explained more specifically that gaps are found. The discussion will be divided into three sections: gap in knowledge and gap in conceptual framework.

Gap in knowledge

To the best of my knowledge, gap in knowledge found among others in objective and outcome variable. On the objective, all interventions have been prepared previously by the researchers. In this case, participants implement something planned by the researchers. Similarly, when the studies conducted in community setting (Curtis et al., 2001; Judah et al., 2009; Luby et al., 2005; Dunn et al., 2002). Curtis et al. (2001) evaluated whether the governments' program of effective to behaviour change. Otherwise, Judah et al. (2009) determine effectiveness at increasing hand washing with soap in a natural setting. Moreover, Luby et al. (2005) assess the effect of hand washing promotion with soap on the incidence of acute respiratory infection, impetigo, and diarrhoea. Thus, all done by researchers have developed previously without the involvement of community to decide for themselves what they need. Fallen & Dwi (2010) expressed how important and strategic working together with the community