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IMPACT OF COMMUNICATION TECHNIQUE USED FOR THE APPLICATION OF HEALTH EDUCATION ON COVID-19 CONTROL AND PREVENTION

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ABSTRACT

The world has locked down during the Corona virus crisis from late 2019. This caused fear, anxiety and depression among the public. In this scenario, media and social media played an important role to provide health education about the precautions and awareness about the infectious disease. This review aimed to study the impact of communication technique used for the application of the health education theories on disease control and prevention. Secondary data was used to write the review by doing word search in various search engines. Social learning theory along with social marketing technique of communication play a major role in providing information to the public during the COVID-19 pandemic.

KEYWORDS

Health education, COVID-19, Media and Social media.

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INTRODUCTION COVID-19

Corona Virus infection became pandemic disease in 2020. It was named as Corona Virus Disease 19 (COVID-19) by World Health Organization (WHO) (Su *et al*, 2020)¹. The first case of COVID-19 was identified in late 2019, in Wuhan, China.

Monto *et al*, (2014)² reported that Corona virus is spherical in shape or pleomorphic enveloped particles containing single stranded positive sense RNA having a nucleoprotein in a capsid comprised of matrix protein. Glycoprotein projections are present over the club shape envelope. Observations further revealed as the virus hosts into a cell, the transcription and translation are done for the

uncoated genome. A unique mRNA forms as “nested set” with a common 3’ end. Budding technique is used to form new virions from the host cell membranes.

The virus transmits via airborne droplets or droplets of saliva from an infected person’s cough or sneeze to the nasal mucosa and replicates locally in ciliated epithelial cell and cause cell damage and inflammation (Monto, Cowling, Peiris, 2014)². The official classification of the new corona virus (COVID-19) was announced by The International Committee on Taxonomy of Virus (ICTV) as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Su *et al*, 2020)¹. Elderly people with complications like diabetes, cardiovascular disease, cancer and chronic respiratory disease, are falling in the category of more likely to the illness and also children as carriers (World Health Organization, 2020)³. There is no vaccine or specific drugs available for this virus and the spreading is treated by controlling the common symptomatic cold and cough especially through hygienic measures to reduce the transmission such as maintaining social distance, wearing face mark, using hand sanitizers or soap for frequent hand washing etc. (World Health Organization, 2020)³.

Rationale for Health education during COVID-19 crisis

Since the disease control depends on hygienic measures, the health education is crucial to prevent spread of infectious disease. Providing adequate hygienic and sanitary information regarding the crisis help the public to be free from fear, depression, anxiety and help to protect themselves from spread of disease or avoid of being expose to as well as support their ability to cope any secondary impact in their life (UNICEF, WHO, IFRC, 2020)⁴. Health education program is not only to target various group of public but health care workers too. WHO and other organizations under United Nations like UNICEF, CDC, international organizations and National organizations are involving in health education programs to prevent and control the disease at various level.

METHODOLOGY

Word search was done by searching COVID-19 and health education in Google search engine, Google Scholar, PubMed, Elsevier and Willey. The eligibility criteria of the searched articles were determined by considering the communication technique used during the crisis.

Theories/models of health education

WHO defined health education as a combination of learning experiences designed to help individuals and communities to improve their health by increasing knowledge and/or in influencing to change attitudes (World Health Organization, 2013)⁵. According to Landon, (1955)⁶ health education has two principle components as information and motivation. In this crisis, Health education is mainly creating awareness and hygienic improvement to guard the community from health hazards.

The theories/models were developed in health education to define the characteristic of the profession. It helps the health care professional to address the challenges such as assess the situations and needs, outline the frame works, planning, implementing and evaluating the program as well as coordinating services, resources and communication (Debarr, 2004)⁷. According to Food and Agriculture Organization (Hosmer *et al*, 2015)⁸, there are four main theories had been practiced. The following table (Table No.1) describe the characteristics of various models/theories of health education.

Behavioral changes are focused in all the above-mentioned theories. Changing into or modifying or introducing a new behavior like wearing face mask due to corona crisis is a challenge for health education professionals. But the outweigh of COVID-19 especially the death rate made the public to change or modify or adopt to a new behavior.

In the social learning theory, mass media and social media are widely used to provide information on time to prevent the transmission of the virus. Training to handle the scenario and proper instruction are clearly given to public health workers. The people who were affected by COVID-19 had instructed to prevent the secondary impacts.

Translocation theory targets the public in various stages to changing their behaviors. Most of the governments announced for compulsory lockdown for all the sectors other than health care till further notice. This has covered all five stages of changes in the community. Health believe model can be applied in family level or society level. If there are any infected people in the environment, that influence the behavioral change in other members in that particular environment/community. Quarantine centers are the best example for social action theory. Social marketing is an effective education and communication technique draws on insights of marketing and advertisements to deliver the message to the target population. The objectives of this technique are disseminating new information regarding health, offsetting outweigh of a practice, promoting a group which is involving in motivation and motivating people to move to the action plan. Though the personal contact (face to face, presentations, demonstrations etc.) is most effective marketing strategy, that can't be used in COVID-19 crisis (Hosmer *et al*, 2015)⁸.

Communication techniques and health education/promotion

COVID-19 crisis became a challenge for all the health education interventions in case of communication. Though it plays main role in several ways, restricted with few tools. The mass communication through media and social media became most suitable for the crisis.

WHO reported that communication in health education should concern the underlying environmental, economic and social condition impacting on health status and individual risk factors like behaviors and also access to healthcare system (Gillon, 1987)¹³. This is illustrated as health promotion in the modern world. Comprehensive social and political process are represented by health promotion. Health promotion promotes the control over the determinants of health to enhance the health status of community at large. Therefore, active participation from the community is very important in promotion action (Gillon, 1987)¹³. It is a challenge to achieve the comprehensive social and political process through health promotion during COVID-19

pandemic and in emergency crisis. The Figure No.1 illustrates the various communication tools that have been used during COVID-19 crisis.

Media and Social media

The demand for information on COVID-19 has grown exponentially from late 2019 due to pandemic emergency. Lockdown by governments for all sectors to prevent or control the transmission of virus, reflected as a huge media coverage for newspapers, radio, television programs and internet. A study by Shakeel *et al*, (2017)¹⁴ on relationship between the utilization of media for promoting health status, aimed to analyses the perception of physicians working in different hospitals of Karachi, Pakistan and the effect of media on efficient utilization for betterment of public health. A questionnaire with 20 term questions was used to analyze in 5-point scale for ranking from lowest to highest disagree of agreement among 500 physicians. The study reported that 33% of the population nullified that media helps to improve patient's health and 54% were not consider the media can help to modify the lifestyle. Around 18% claimed that patient started unnecessary self-medications due to media influence.

Alshammari *et al*, (2017)¹⁵ conducted a study in Rajasthan, India about the usage of mass media in health education and consciousness exploration of general public and to understand how mass media is important for health communication, to identify the most important media for health communication and assessing the role of mass media in health education. A questionnaire was used to collect response from 130 randomly chosen respondents from Rajasthan, and analyzed in 5-point scale. Around 57% of sample strongly agreed that media is creating awareness among the public. Important role of media in health education was strongly agreed by 49% and 44% reported as television plays a main role among the media.

In view of the above studies, there are two different perceptions about media in health education and a challenge while conducting health education through mass media. Following are the reasons for these two different perceptions. Target population is not scientific people, but laymen. They expect certainty

from the media as conforming the behaviors are healthy or unhealthy. There is a difficulty to change the behaviors as well as various stage of readiness of consumers for a change. Health care educators and media should function as gate keeper to give actual facts and correct perspective towards public health (Fernandez-Celemin and Jung, 2006)¹⁶. Also, they should help the public to make moral judgments on crisis like COVID-19. Error-free communication will increase the accuracy and help to overcome the issues in health measures.

Newspapers are window and mirrors that shows the other lives and possibilities to overcome the health issues. It is used by the readers to validate their own views. This is a challenge in press to convey the key message to make change in the behaviors. Press have to put greater force to make a change. Eye catching posters and scientific articles in the local language can help the public to understand the outweigh of the crisis through newspapers (Fernandez-Celemin and Jung, 2006)¹⁶.

The main objective of radio/ television programs and internet/websites is commercial profit. So, the time is limited for these programs. The health education can be done through advertisements or schedule with an expert. Advertisements will carry a short message, a minute or less in length and insert into the most popular programs and repeat throughout the day for several times with minimum disturbance. Schedules carry out with a planned message, pre and post research and audience attitudes with the help of professionals, it may be a discussion or demonstration (Manoff, 1973)¹⁷.

Adolescents and young adults are targeted by social media such as Facebook, twitter, Instagram, Snapchat, you tube etc. It will track the individuals who are seeking to improve their own health and support effectively either via private group or public pages (Lyons, 2000)¹⁸. But need a careful evaluation towards facts about health measures because there are no gate keepers in social media because any one can open or create a page or group and post the information.

A systematic review was done by Chau *et al*, (2018)¹⁹ about the usage of social media in nutrition interventions targeted adolescents and young adults, found a potential support for the target group (10 to 25 years old) to change their behaviors. They identified 16 research articles and analyzed into 7 categories such as social media, communication, tracking health, education, tailoring, social support, and gamification. Among the 16 articles, 11 were shown a significant outcome at least with above mention category.

In this COVID-19 crisis, the media and social media play main role to change an attitude, a habit or a practice and accomplish it as rapidly as possible by illustrating the clear information, demonstration of health measures and the outweigh of the infectious disease.

The following table provide the evidence for the usage of media and social media during the COVID-19 crisis.

Table No.1: Theories/ models of health education (Source: Self-made)

S.No	Theory/model	Key concepts	References
1	Social learning theory Originator: Bandura 1986	Cognitive process like thinking, perceiving and believing will be used for behavioral change (attitude and/or believes). Influences- environment or situation which can provide consequences, Positive reinforcement and expectancies (clear information, experiences, skill development and modeling desired behavior)	(Bandura, 1989) ⁹ , (Hosmer <i>et al</i> , 2015) ⁸
2	Translocation Theory Originator: Prochaska, 1990	There are five stages of readiness to change the behaviors is considered for intervention in a spiral model. They are: 1. Pre-contemplation- There is no strong thinking about changing the behaviors 2. Contemplation- possibilities to change 3. Preparation- attempt to change 4. Action- involving in changing 5. Maintenance- successfully avoid that particular behavior	(Moore, 2005) ¹⁰ , (Hosmer <i>et al</i> , 2015) ⁸
3	Health Belief Model Originator: Rosenstock, 1988	It is based on four different perception areas, they are: 1. Susceptibility to illness 2. Potential severity to illness 3. Benefits of taking precautions 4. Barriers for taking precautions	(Abraham and Sheeran, 2014) ¹¹ (Hosmer <i>et al</i> , 2015) ⁸
4	Social Action Theory Originator: Azjen and Fishbein, 1987	It considers the attitude towards changes on believes on outcomes and social influences	(Ajzen, 1991) ¹² (Hosmer <i>et al</i> , 2015) ⁸

Table No.1: Evidence for the utilization of media and social media during COVID-19 crisis

S.No	Study	Objective	Methodology	Results	Reference
1	Role of Social Media in Spreading Corona-Phobia and Psychological Well-Being.	To examine whether social media affect the psychological health or not?	A survey was done among quarantined patients.	Various psychological symptoms were caused by social media.	(Amin, 2020) ²⁰
2	Social Media Reigned by Information or Misinformation about COVID-19	To find out whether social media is informing or misinforming the public	Phenomenological study	The information given in social media should be refrain from misinformation by the responsible public before spreading.	(Brindha, Jayaseelan, and Kadeswara, 2020) ²¹
3	Social media: friend or foe in the COVID-19 pandemic?	To understand the role of social media due to COVID -19 pandemic.	Review article	Social media plays a role to spread information about how to fight this contagious disease, and update about how public can respond to it.	(Lima, Lopes, Brito, 2020) ²²
4	The Impact of Social Media on Panic During the COVID-19 Pandemic in Iraqi Kurdistan	To determine the effect of social media on self-reported mental health while spreading anxiety during COVID-19 in the Kurdistan Region of Iraq.	An online survey	Social media acts as a spreader of anxiety about the COVID-19 and its degree depends on the gender, age and education level.	(Ahmad and Murad, 2020) ²³

5	Public health education for parents during the outbreak of COVID-19	To find out the impact of educating parents about COVID-19 pandemic on the behavioral changes of children.	Review article	Behavioral changes were occurred when the children guided by the parents with accurate information from the media.	(Li <i>et al</i> , 2020) ²⁴
6	Effects of misleading media coverage on public health during COVID-19 crises	To study the effects of misleading coverage on health education.	Review article	Avoiding biased media usage, creating awareness about better consumption about media consumption as well as careful consideration will help to get the correct information.	(Wen, Aston, Liu, and Ying, 2020) ²⁵
7	Health communication message transfer through news media during the early stage of the COVID-19 outbreak.	To study the public perception and the role of media during COVID-19 outbreak.	Secondary data collection by using Phyton software	Mass media plays a significant role during COVID-19 outbreak through topic modeling of news articles	(Liu <i>et al</i> , 2020) ²⁶
8	The Media acting as Informative agent during COVID-19 crisis and to validate questionnaire to measure mass perception of media usage	To validate a developed tool for measuring the perception of the media and their informative role during COVID-19 pandemic	Used descriptive statistics to validate the questionnaire	Media plays a role in providing information during COVID-19 crisis. The developed scale was validated and be of use during pandemic.	(Mejia <i>et al</i> , 2020) ²⁷

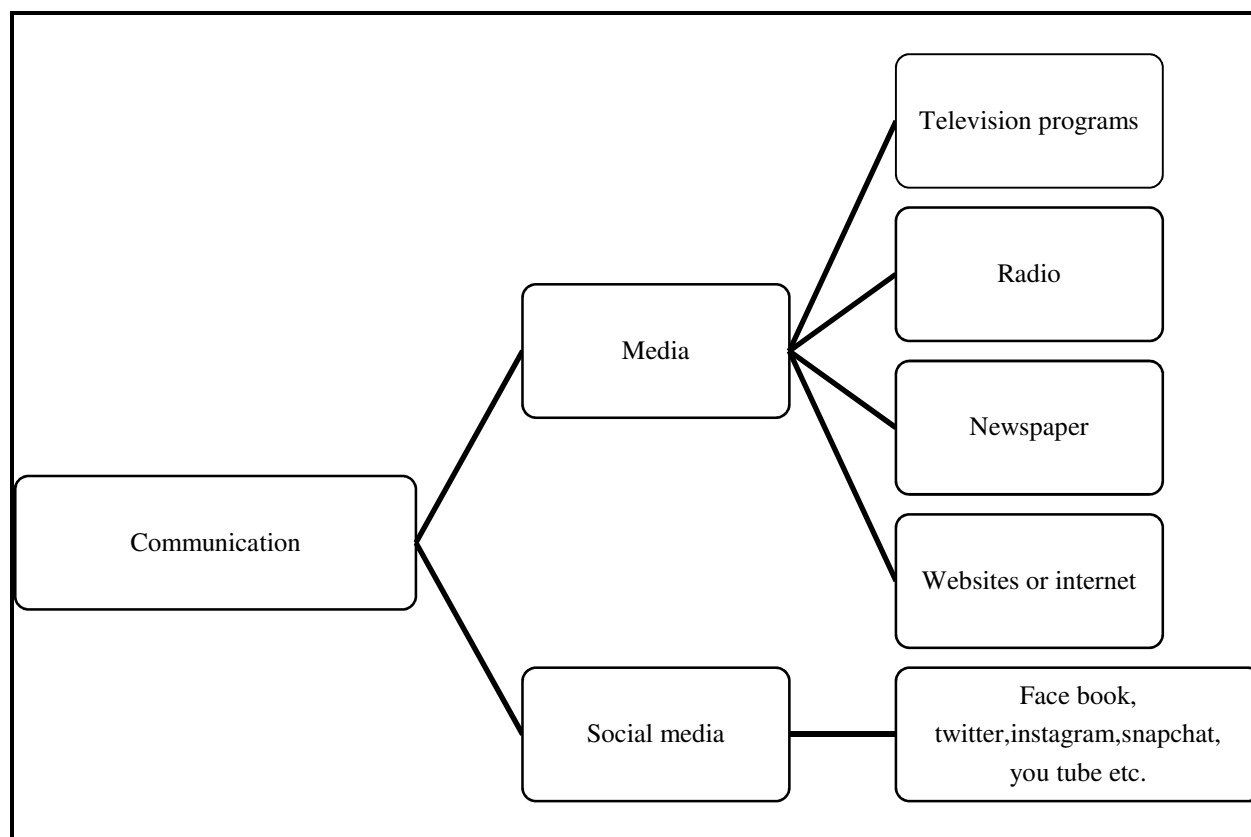


Figure No.1: Tools of communication in health promotion during COVID-19 (source: self-made)

CONCLUSION

The review can be concluded by inferring social learning theory along with social marketing technique of communication play a key role to provide information to the public during the COVID-19 pandemic as well as adopting new precautions through behavioral changes. Also, it can be suggested to follow the information provided by authentic publishers, media and social media. For that public should have a basic awareness regarding the authentic information bodies. This will help to prevent the spreading of misinformation.

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CONFLICT OF INTEREST

We declare that we have no conflict of interest.

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