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**RESEARCH PAPER**

# Khyber Pakhtunkhuwa Government Health Communication Campaigns and its Impact on Social Media Users

**Masroor Ahmed[1] Prof. Dr. Noshina Saleem*[2]**

1. Ph. D Scholar, School of Communication Studies, University of the Punjab, Lahore, Punjab, Pakistan
2. Director, School of Communication Studies University of the Punjab, Lahore, Punjab, Pakistan

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***Corresponding Author**

masroor.msmc@gmail.com

**ABSTRACT**

The research aimed to evaluate the impact of social media health communication campaigns of Khyber Pakhtunkhuwa Government on the social media users. The research was both quantitative and qualitative in nature, for which a survey and interview method was used. A questionnaire was designed to acquire responses from the respondents. The reliability and validity of the tool was measured and its alpha value was recorded above 60 percent for all the variables. Moreover, the factor analysis yielded valid results for the variables considered in this study. The respondents were approached through a multi stage sampling in twelve different districts of Khyber Pakhtunkhuwa. Using the Yamane, (1967) formula an adequate sample size (400) was extracted. The findings revealed that social media health campaigns have enhanced the health information of the respondents. Moreover, these campaigns have sensitized them that they are vulnerable to diseases and the health issues are severe in not addressed. Furthermore, they responded that, these health campaigns benefits them in their lives and they know about the various barriers that hinder their attitude towards the campaign messages. The demographic variable age was found negative and significant with vulnerability. Also, it is positively correlated with indirect channels of communication. Similarly, educational level has a negative and significant correlation with vulnerability. However, income has no correlation with any constructs. However, exposure to social media had no correlation with the variables considered in this study.

## Introduction

In Pakistan, many social projects for the improvement of people's lifestyles are carried out through the medium of television and radio. Health awareness campaigns represent the most notable initiatives among these social activities. Unfortunately, the efforts were not successful and in avoiding diseases, people were unable to respond to the media messages. The commercials relating to family planning have also been overlooked by the public due of shyness. With the

improvement in social media, however, it is feasible to read such communications separately. In addition, governmental and non-governmental groups are more focused on using social media to advocate for the promotion of health literacy. According to the World Health Organization (2009), "Health Literacy has been described as the cognitive and social skills which determine the motivation and ability of individuals to obtain access to, understand and use information in ways which promote and preserve good health".

In the age of technological advancement, social media networking has shown to be an efficient means of connecting people. There are many social media tools that allow people to access the content of newspapers, television, and radio. Having a smart phone is essential to accessing social media content. According to Farooq (2019), in Pakistan, 37 million active social media users were observed in January 2019, which is about 18 percent of the population. Public relations, propaganda, marketing, and social campaigning are all common applications of social media, thanks to its wide availability to everyone from government agencies to private firms to advertisers to non-profit organizations to business owners. Moreover, Boczkowski and Mitchelstein (2013) highlight that, the use of the internet and social media consumption has been employed at the macro level as indicators of the impact of education and awareness campaigns. According to Robinson, Tansil et al. (2014), health awareness campaigns are multi-faceted efforts to create messages that are intended to educate and persuade target audiences to adopt and maintain healthy habits. Many operations are likely to have the following outcomes: removing barriers to change, aiding individuals in adopting healthy social norms, and relating given valued feelings to change. These specific alterations reinforce the goal shift and enhance the likelihood of developing new habits. For example, an anti-smoking project could demonstrate the health risks and benefits of quitting smoking by providing a hotline number for a customer service line that reminds smokers of healthy social norms to quit, and identifies with good self-interest, or combine these characteristics as per the needs of the project.

The government of Khyber Pakhtunkhwa, Pakistan, and other social welfare groups have used social media profiles on their websites to conduct health communication campaigns in recent years. In addition, these campaigns received a lot of money. To learn more about this topic, a study has been conducted in Khyber Pakhtunkhwa, Pakistan, to assess the impact of health communication campaigns using social media. The following health-related campaigns were examined in this study:

**Corona Virus (Covid-19) at Khyber Pakhtunkhwa**

This awareness campaign focuses on creating awareness among the people of Khyber Pakhtunkhwa. Various social media posts were promoted on https://www.facebook.com/HealthKPGovt/ with the purpose to sensitize and educated the public regarding the corona pandemic.

**Sehat Sahulat Programme**

Though the Sehat Sahulat programme, the flagship project of Pakistan Tehreek-e-Insaf (PTI) government in Khyber Pakhtunkhwa, is a blessing for millions of patients. The initiative was first launched in Khyber Pakhtunkhwa as Sehat Insaf

Card in September 2016 to provide free-of- charge health care to families living below the poverty line.

**Integrated Vector Control Program**

In view of rising trend of VBDs in KPK particularly leishmanaisis, provincial Roll Back Malaria (RBM) program in 2014 was converted into Integrated Vector Management Program with some revised roles and responsibilities.

**Insulin for Life Program**

Diabetes is the leading cause of blindness, kidney failure, non-traumatic amputations, heart attacks and life expectancy is shortened by approximately10 years, if it is not controlled.

The Impact of the aforementioned health communication campaigns on the users of social media at Khyber Pakhtunkhwa has been studied to analyze the health information these campaigns conveys. The impact of the aforementioned campaigns on the beliefs as identified by health belief model as (vulnerability, severity of health issue, perceived benefits and perceived barriers), attitude towards health information and behavior change stages has been the key highlights of this study.

**Literature Review**

Communication campaigns are defined as "A purposeful attempt to inform or influence behaviors in large audiences over a defined period of time using an organized set of communication activities and featuring an array of mediated messages in multiple channels generally to produce noncommercial benefits to individuals and society," (Atkin & Rice, 2012).

A Social networking site is a web-based communication service that allows people to create public profiles with an online community and share thoughts, ideas, and information with that community (Chambers, 2013). The most popular social media technologies are Facebook, Wiki, YouTube, bulletin boards, LinkedIn, blogging, and twittering (Youmei, 2010).

Sampogna et al., (2017) conducted a study on the impact of social marketing strategies on eliminating mental health stigma. In depth they highlighted the impact of social marketing initiatives on changing knowledge, attitudes, and behaviours around mental diseases in a population in England.

Relationships provide various distinct elements of social connectedness that social scientists have explored. The absence of social relationships is referred to as social isolation. Social integration refers to an individual's overall level of involvement in both informal and official social interactions, such as those with religious institutions and volunteer organisations. Positive parts of relationships, such as emotional support from significant individuals, are included, as are strained aspects of relationships, such as conflict and stress. The web of social interactions that surrounds an individual, as well as structural elements such as the type and strength of each social contact, are referred to as social networks. (Smith & Christakis, 2008).

Quantity and quality of social contacts have an impact on mental health, health behavior, physical health, and mortality risk. Sociologists have been crucial in establishing the link between social ties and health outcomes, determining explanations for this link, and finding social variation (e.g., by gender and race) at the population level. The most important social ties for health change throughout life, with parents having the greatest influence on children's health, peers becoming increasingly important in adolescence, intimate partners becoming increasingly important in adulthood, and adult children taking on a greater role in later life (Umberson et al. 2010).

Media exposure is at the heart of many of the most pressing issues in the study of politics and society. Do the media, for example, promote socially disadvantaged populations' tolerance or hatred? Has an increasingly political media environment hurt the public's access to a varied range of viewpoints? Is the media, at least in part, to blame for political polarisation? Is there a way to have a lot of options? Is today's media environment encouraging political engagement, indifference, or cynicism? Is there a role for the media in this? Is it possible that being exposed to impersonal strangers influences political trust or apprehension? Is it true that the existence of uncivil and vulgar media makes it more difficult for people to sympathize with the opposing viewpoint? How does election coverage affect voters' views of politicians and democratic institutions? Accurate and trustworthy estimates of media exposure are required to address these and other challenges, but the definition and measurement of this concept are still up for debate (De Vreese et al. 2011).

According to Rincon et al. (2021), health knowledge is a theoretical construct that encompasses extensive and specific information on illness origin, prevalence, risk factors, prevention, transmission, symptomatology, and treatment, as well as health services and patient rights. These categories denote an objective nature, as the data was obtained from authorised external sources and so may be deemed explicit and factual. Previous research has shown that having enough levels of health information in the community has a good impact on health promotion and disease prevention. Similarly, during public health emergencies, public health information plays a significant role in lowering risky behaviours and encouraging the adoption of protective and preventative activities.

The impact of a health communication programmes or campaign on increasing quality of life or reducing detrimental impacts on persons can be measured to determine its success (Bennett & Glasgow, 2009).

**Hypotheses**

**H1:** There is a positive and strong correlation of demographics (age, education and income levels) with respondent's health information, vulnerability, perceived barrier, perceived benefits, severity of health issues, influence of indirect channels of communication and attitude towards health information.

**$H_2$:** There is a positive and strong correlation of exposure to social media (number of post viewed and time spent using social media) with health information, vulnerability, perceived barrier, perceived benefits, severity of health issues, influence of indirect channels of communication and attitude towards health information.

## Material and Methods

### Universe of the Study

The Universe for this study is the Northern Province of Pakistan i.e. Khyber Pakhtunkhwa.

### Population of the Study

According to the census of 2017, the targeted population of Khyber Pakhtunkhwa is (30,508,920) in the 25 districts of excluding the newly merged districts of FATA.

### Sampling Technique

In this study, multistage sampling is used. "Multi-stage" indicates that sampling is done in several steps. First larger sampling units are selected then smaller sampling units are selected within the selected larger units.

Multi-stage sampling is a more complex version of cluster sampling in which larger clusters are broken into smaller, more targeted groups for surveying purposes. Multi-stage sampling, despite its name, can be simpler to implement and produce a more representative sample of the population than single sampling techniques. Multi-stage sampling can help minimise the expenses of large-scale survey research by limiting the elements of a population that must be covered inside the sampling frame, especially when a general sample frame is required.

There are 25 districts in KPK. At this stage districts are selected by ranking them according to HDI-Human development index. The Human Development Index (HDI) is a composite statistic used to rank some area by level of "human development" and separate developed (high development), developing (middle development), and underdeveloped (low development) areas. The statistic is composed from data on life expectancy, education and per-capita GNI (as an indicator of standard of living) collected at the national level.

This is a list of districts of Pakistan in order of their Human Development Index (HDI) as of 2017, the latest year for which data is available. The HDI values are provided by the Research Report No.73 "Trends in Regional Human Development Indices" by Haroon Jamal and Amir Jahan Khan.

The HDI ranked districts have been divided into three groups and selected four districts from each group using simple random sampling. The selected districts are Mardan, Malakand, Swabi, Haripur, Peshawar, Charsadda, Karak, Bannu, Buner, Upper Dir, Tank and Battagram.

Using the Yamane's (1967) formula, a random sample of size 400 is considered for this study. As there are different number of total tehsils in each selected district so in this stage, Probability proportional sampling is used to select sample size from each selected district. The sample is distributed proportionally between 12 districts and the relevant formula used for this purpose is,

$$n_h = \frac{nN_h}{N}$$

In this stage, the respondents are selected by using purposive sampling as it is difficult to perform simple random sampling for household data. By purposive sampling using is exclusion/ inclusion criteria. In this way data is collected from respondents according by keeping controlled variables e.g., gender and locality (urban/rural) etc.

**Reliability Analysis-Cronbach Alpha**

The internal consistency of the items of the various constructs used in the study was assessed using a reliability test.

**Table 1**
**Pilot Testing of Questionnaire**

| Variables | No. of items | Alpha Value |
|---|---|---|
| Health Information | 14 | 0.861 |
| Vulnerability | 3 | 0.820 |
| Perceived Barrier | 4 | 0.670 |
| Severity of Health Issue | 4 | 0.749 |
| Perceived Benefits | 5 | 0.832 |

The scales for health information, vulnerability, and perceived barrier, severity of health issue, perceived benefits, and attitude toward health information are all shown in Table 1. Each scale's reliability was found to be above the acceptable level. According to Hair et al. (2010), in the subject of social sciences, acceptable values of 0.6 and above are acceptable. According to this argument, the construct's extracted reliability values are satisfactory and fall within the acceptable range indicating that the data can be used for further analysis.

**Descriptive Statistics**

**Table 2**
**Demographic Characteristics of Respondents**

| Demographics | Categories | Frequency | Percent |
|---|---|---|---|
| **Age** | 18-24 | 17 | 4.3 |
| | 25-31 | 124 | 31 |
| | 32-38 | 156 | 39 |
| | 39-45 | 88 | 22 |
| | 45 and above | 15 | 3.8 |
| **Gender** | Male | 362 | 90.5 |
| | Female | 38 | 9.5 |
| **Location** | Urban | 214 | 53.5 |
| | Rural | 186 | 46.5 |
| **Marital Status** | Married | 268 | 67 |
| | Unmarried | 132 | 33 |
| **Education Level** | Matric or below | 13 | 3.3 |

| | | | |
|---|---|---|---|
| | B.A/B.SC (14 years) | 57 | 14.3 |
| | BS/M.A/M.Sc. (16 years) | 240 | 60 |
| | MPhil/MS/PHD | 90 | 22.5 |
| **Employment Status** | Employed | 315 | 78.8 |
| | Not Employed | 85 | 21.3 |
| **Income Level** | 50,000/- or below 50,000/- | 72 | 19 |
| | 51,000/- to 80,000/- | 160 | 40 |
| | 81,000/- to 100,000/- | 44 | 11 |
| | 100,000/- or above | 54 | 13.5 |
| | Not Earning/Dependent/Housewives, etc. | 70 | 17.5 |

Table 2 shows the demographic characteristics of respondents. The subjects were divided into five age categories. The data displays that 4.3% of the total respondents are between age group 18-24, 31%, are between 25-31 age group, 39% are in between age 32-38, 22% in age 39-45, 3.8% of the respondents are in age 45 and above. The maximum respondents fall in the age group of 32-38 (n=156) and 25-31 (n=124) and the minimum is in age 45 and above (n=15) of the sample population. The gender wise distribution of the data has also been presented in the table 5.3. There were 362 males (90.5%) and 38 females (9.5 %) who participated in this study. Location wise, a total of 214 (53.5%) respondents were from urban and 186 (46.5%) from rural area. Moreover, in the total responses collected, 268 (67%) respondents were married and 132 (33%) were unmarried.

Regarding the education level, the table specifies that 13 (3.3%) of the respondents were matriculate or below, 57 (14.3%) respondents have B.A/B.SC (14 years) degree and 240 (60%) of the respondents were BS/M.A/M.Sc. (16 years) degree holders and 90 (22.5%) had M.Phil. /MS/Ph.D. education. Furthermore, out of the total sample size, 315 (78.8%) respondents were employed and 85 (21.3%) were not employed. Regarding the income level of the respondents, the table shows that 19% of the total respondents fall in 50, 000/- or below 50,000/- income level, 41% in 51,000/- to 80,000/-, 11% are in 81,000/- to 100,000/-, 13.5% are in 100,000/- or above, 15.5% of the respondents are not earning/dependent/housewives, etc. The maximum respondents are 51,000/- to 80,000/- income level and the minimum are in 81,000/- to 100,000/- income level of the sample population.

**Individual Variable (item wise) Descriptive Statistics**

**Table 3**
**Health Information**

| | Min | Max | Mean | Std. D |
|---|---|---|---|---|
| The provision of health care services for diseases through social media is sufficient. | 3 | 5 | 4.08 | .399 |
| Lack of frequent updated campaign information on traditional media results in hindering the desired outcomes of a health campaign. | 3 | 5 | 4.10 | .376 |
| Social media pages provide help line details of health centers on their pages. | 3 | 5 | 4.00 | .459 |

| | | | | |
|---|---|---|---|---|
| Frequent use of social media helps me to know about hygiene issues. | 3 | 5 | 4.08 | .389 |
| The precautionary information provided regarding diseases on social media helps me deal with emergency situations. | 3 | 5 | 4.03 | .452 |
| Social media guide about treatment facilities at health centers in my area. | 3 | 5 | 4.10 | .438 |
| Social media pages effectively respond to queries related to health issues. | 3 | 5 | 4.05 | .434 |
| Personal hygiene messages are available on social media to avoid diseases. | 3 | 5 | 4.05 | .434 |
| The valuable suggestions by health experts on social media pages helps in maintaining a healthy life style. | 3 | 5 | 4.05 | .382 |

Table 3 displays descriptive data variable-wise. The table below contains a complete list of the construct's components. This demonstrates that the lowest mean value is 4.00, and the highest is 4.10, according to the data. The majority of people strongly agree or agree with the survey's findings. These results suggest that health campaigns have an effect on participants in a positive way as they agree with all of these variables.

**Pearson Correlation Analysis**

**Table 4**
**Correlation Matrix**

| Variables | Mean | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Age | -- | -- | 1.000 | | | | | | | | | |
| 2. Education Level | -- | -- | 0.028 | 1.000 | | | | | | | | |
| 3. Income level | -- | -- | -0.017 | -.111* | 1.000 | | | | | | | |
| 4. Health Information | 4.003 | 0.319 | 0.034 | 0.000 | 0.038 | 1.000 | | | | | | |
| 5. Vulnerability | 4.073 | 0.282 | -.119* | -.205** | 0.069 | .139** | 1.000 | | | | | |
| 6. Perceived Barrier | 3.966 | 0.266 | 0.001 | -0.017 | 0.046 | .548** | .115* | 1.000 | | | | |
| 7. Severity of Health Issue | 4.121 | 0.284 | 0.006 | 0.027 | 0.060 | .233** | .150** | .151** | 1.000 | | | |
| 8. Perceived Benefits | 4.021 | 0.578 | 0.051 | -0.010 | 0.080 | -0.077 | -0.061 | 0.032 | -0.054 | 1.000 | | |
| 9. Influence of indirect channels of Comm. | 4.182 | 0.368 | .103* | 0.043 | -0.066 | 0.031 | .164** | -0.056 | .190** | -0.078 | 1.000 | |
| 10. Attitude towards Health Information | 4.043 | 0.282 | 0.001 | -0.022 | 0.044 | -0.015 | .168** | -0.055 | .179** | 0.003 | .256** | 1.000 |

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Table 4 shows the correlation analysis among all variables considered in this study. The demographic variable age was found negative and significant with vulnerability (r=-.119, p<.01), this means when age increases the vulnerability decreases. Also, it is positively correlated with indirect channels of communication (r=.103, p<.01), which means that an increase in age the influence of indirect channels of communication also increases. Similarly, educational level has a negative and significant correlation with vulnerability (r=-.205, p<.01). However, income has no

correlation with any constructs. Furthermore, the independent variable health information was found in positive and significant correlation with vulnerability (r=0.139, p<.01), perceived barriers (r=0548, p<.01), severity of health issues (r=0.233p<.01). The mediator variable of Influence of indirect Channels was found positively and significantly correlated with vulnerability (r=0.164, p<.01), positively and insignificantly correlated to severity of health issues (r=0.190, p<.01).

Table 5: *Pearson Correlation Analysis (Exposure to Social Media with Other Variables)*

| | Mean | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. No of posts | -- | -- | 1 | | | | | | | |
| 2. Time spent social media | -- | -- | -0.02 | 1 | | | | | | |
| 3. Health Information | 4.003 | 0.319 | 0.05 | 0.04 | 1 | | | | | |
| 4. Vulnerability | 4.0734 | 0.281 | 0.08 | 0.01 | .13** | 1 | | | | |
| 5. Perceived Barrier | 3.9656 | 0.26592 | 0.04 | -0.04 | .54** | .115* | 1 | | | |
| 6. Severity of Health issue | 4.1213 | 0.28372 | 0 | 0.09 | .23** | .150** | .15** | 1 | | |
| 7. Perceived Benefits | 4.0205 | 0.5782 | 0 | 0.01 | -0.07 | -0.06 | 0.03 | -0.05 | 1 | |
| 8. Attitude toward health information | 4.0429 | 0.28211 | 0.01 | 0.09 | -0.01 | .16** | -0.05 | .17** | 0 | 1 |

**. Correlation is significant at the 0.01 level (2-tailed)
*. Correlation is significant at the 0.05 level (2-tailed

Table 5 shows correlation between the exposure to social media content (no of campaign posts seen on social media and hours spent using social media" with all of the variables considered in this study. The result shows that there is no significant correlation of the exposure to social media with all of the variables considered in this study.

**Discussion**

Through the descriptive data analysis it has been assessed that the respondents agree or strongly agree with most of the items designed for various constructs (vulnerability, severity of health issues, perceived benefits, perceived barriers, attitude towards health information and influence of indirect channels of communication). This proves that the social media is an effective medium of transmission of messages across the diverse segment of society. These results are in line with study conducted by (Baruah, 2012). With its advantage as affordable and far reaching, social media is playing a key role in enhancing the behaviors, beliefs and attitudes of the people towards health information. In the various districts of Khyber Pakhtunkhuwa, where this study was conducted, the health indicators were assumed to be below the standards. One of the reasons is the lack of proper awareness among the people. However, social media provide detailed information that is updated regularly, and at the ease of the respondents. This facility have provided the residents with an opportunity to grab the required information at ease. Moreover, the agreement with various items shows that the respondents are serious about their health and the health messages through social media sensitize them regarding the diseases conveyed in the four mentioned campaigns. This finding is in accordance with the finding of the study conducted by (Wang, Li, Hutch, Naidech and Luo, 2021) in which they concluded that social media has arguably shifted the information

acquisition and dissemination of a considerably large population of internet users toward higher interactivities.

The second research question has addressed the impact of health communication campaigns in enhancing the health information/awareness of the respondents. The results shows that the different health campaigns enhance the health information of the respondents. A minimum mean value of 4.00, and the highest is 4.10 was recorded for this variable. This depicts that the majority of people strongly agree or agree with the items of this variable. These results are supported by various studies conducted by researchers. For example, a study by AlMuammar, Noorsaeed, Alafif, et al. (2021) reinforced that health information that is sought from the Internet and social media platforms has a great impact on the population, emphasizing the need for credible information sources and how to access them.

The correlation of the various constructs shows that the demographic variable age was found negative and significant with vulnerability (r=-.119, p<.01), this means when age increases the vulnerability decreases. Also, it is positively correlated with indirect channels of communication (r=.103, p<.01), which means that an increase in age the influence of indirect channels of communication also increases. Similarly, educational level has a negative and significant correlation with vulnerability (r=-.205, p<.01). However, income has no correlation with any constructs. Furthermore, the independent variable health information was found in positive and significant correlation with vulnerability (r=0.139, p<.01), perceived barriers (r=0548, p<.01), severity of health issues (r=0.233p<.01). The mediator variable of Influence of indirect Channels was found positively and significantly correlated with vulnerability (r=0.164, p<.01), positively and insignificantly correlated to severity of health issues (r=0.190, p<.01).

Regarding the correlation between the exposure to social media content (no of campaign posts seen on social media and hours spent using social media) with all of the variables considered in this study. The result shows that there is no significant correlation of the exposure to social media with all of the variables considered in this study.

There were different studies conducted in the domain of health communication but no study has considered correlating the health information with the other independent variables considered in this study. The following studies were conducted but they had a different approach. Hence, no supporting or refuting results could be mentioned for these findings.

**Conclusion**

This study adds to the body of knowledge on the use of social media to communicate public health messages. This study established a solid foundation for future research in the field of health communication. The twelve districts of Pakistan Khyber Pakhtunkhwa Province were examined in this study to determine the potential impact of health communication campaigns. The impact was assessed in terms of health beliefs, In the first instance, an informative systematic review of the literature was conducted, which provided a high-level overview of what is known about this subject, including the identification of evidence gaps. There were no systematic reviews available for the social media campaigns that were the subject of

this study. A search of the literature was conducted for all variables mentioned in this study, as well as for studies conducted in other countries in the same domain.

Our findings indicate that the use of social media platforms can have a beneficial effect on public awareness. This study determined that various social media campaigns have an effect on user's perceptions of their health (vulnerability, severity of the issues, perceived benefits and perceived barriers).

Public health authorities may be able to effectively use social media platforms to raise public health awareness by disseminating brief messages to targeted populations. However, additional research is needed to validate how social media channels can be used to increase health literacy and healthy behavior adoption in a cross-cultural setting in Pakistan.

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