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EVALUATION OF MALARIA AWARENESS, PREVALENCE, AND CONTROL MEASURES IN THE SOUTHERN PUNJAB AREA OF PAKISTAN: ROLE OF HEALTH PROMOTING BEHAVIOR

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Abstract
For many years, malaria has been a persistent worldwide health concern. This study looked at the level of awareness, prevalence, and preventative methods for malaria among Pakistani households in the southern Punjab region. Using a straightforward random sampling technique, a semi-structured questionnaire was used to poll a total of 531 people. SPSS 25.0 was used for the data analysis, and tables, graphs, and charts were used to display the findings. According to the survey, participants had a solid understanding of malaria, its vector, and mosquito breeding grounds. Of those who took part in the research, 32% said they had malaria every year, and 75% said they knew someone who had the illness. Of the participants, 51% preferred environmental management and sanitation (EMS) as an alternative approach to vector control in the municipality, while 19.0% preferred settlement, or erecting buildings away from wetlands. About half of those surveyed think that environmental sanitation bye-laws will force people to clean up their yards, which will remove mosquito breeding grounds. Roughly half of the participants hold the view that the government ought to hire and support sanitary laborers and environmental health inspectors. Health workers in southern Punjab must step up efforts to educate the public about malaria prevention and control in order to successfully alter family attitudes toward this disease's prevention and control. It is essential that the federal and state governments increase the number of Environmental Health Officers and provide them with the necessary training in order to guarantee adherence to environmental cleanliness rules. The potential of larvicides and environmental management and sanitation (EMS) as ways to improve fundamental vector control strategies for mosquito larval control should be investigated by the malaria control authorities in the study region.

Keywords: Physical Health, Public Awareness, Environmental Health

Introduction
The principal aim of public health initiatives is the management of malaria, an issue of global health significance. Malaria is transmitted by the parasitic Plasmodium, a single-celled organism. The parasites are transmitted through female Anopheles mosquito bites or blood consumption (Anstey et

al., 2021). Malaria is caused by the presence of fever and shivers. Untreated diseases can lead to fatal complications (Sawangchai et al., 2022). Malaria claims the lives of over one million individuals annually in Africa. North America, along with other temperate regions, is afflicted with malaria. This disease predominantly presents itself in the tropical and subtropical regions of Asia. Dedicated efforts were made by public health experts to eliminate malaria during the twentieth century. In contrast, malaria accounts for 90% of malaria-related fatalities and 80% of malaria cases; this impacts more than 40% of the world's population, with impoverished nations such as Southern Punjab being disproportionately affected (Daneshvar et al., 2009). A mere 31 of the endemic malaria countries experienced a substantial decline in malaria cases from 2015 to 2018, and an even smaller fraction achieved their target reduction of 40% by 2020. Without substantial modification, current vector control strategies will be unable to meet the global technical strategy (GTS) for malaria 2016–2030 morbidity indicators in 2025 and 2030. Malaria is the leading cause of mortality and is responsible for 37.5% of outpatient visits in Southern Punjab. However, it continues to be the primary contributor to morbidity and mortality among infants below the age of five (U5), as well as the primary cause of employees taking sick leave (Peterson et al., 2021). Malaria adversely affects economic output across all sectors. Due to the extreme prevalence of malaria, 24 million individuals throughout the nation are at high risk of contracting the disease. In 2018, malaria accounted for the highest proportion of confirmed cases (18%) among outpatient morbidities in Pakistan. Notwithstanding a substantial reduction from 61.2% in 2014, malaria infection continues to be a substantial public health issue in the Pakistani Municipality. The knowledge and practices of indigenous populations are essential for malaria treatments to be technically feasible, culturally acceptable, and efficacious (Fang & Mushtaque, 2024). Numerous malaria control decisions neglect to consider the community's expertise, perspectives, and methodologies pertaining to the diagnosis, treatment, and prevention of symptoms. After drain cleansing and larvicides were applied, the intervention site had a lower risk of malaria than the control site, according to (Raza, Khalid, et al., 2023). Additionally, the study revealed that neighborhoods that had been sensitized had a greater understanding of health concerns and the objectives of the intervention.

In order to manage maladies on a community level, (Davidson et al., 2019) proposed a multifaceted approach encompassing socio-cultural and economic factors, human behavior, and biological interventions. Vector control is an indispensable element of any malaria reduction or eradication strategy. The World Health Organization suggests indoor residual spraying (IRS) and long-lasting insecticide-treated nets (LLINs) as methods of malaria vector control. The percentage of malaria-at-risk individuals in Punjab who slept beneath an LLIN rose from 29% in 2010 to 50% in 2018. As of 2018, 37% of individuals own and utilize LLINs, an increase from 33% in 2010, and 72% of households have one LLIN per two individuals, a rise from 47% in 2010.Concerns regarding the long-term ecological effects of certain pesticides and the development of resistance by Anopheles mosquitoes and Plasmodium parasites to numerous insecticides and anti-malarial drugs have been identified as contributing factors to the inefficacy of three LLINs and IRS. As a result of increased external transmission and adult mosquitoes developing resistance to insecticides, the efficacy of netting treated with these chemicals has diminished, and efforts to eradicate adult mosquitoes have shifted towards methods of controlling mosquito larvae. Innovative solutions are required immediately to combat pesticide resistance and outdoor transmission.

Nonetheless, insecticide-treated LLINs and IRS are the principal methods for controlling vectors that can safeguard dwellings against mosquito bites and residual malaria transmission. One barrier to malaria control is the disease's propensity to spread in open areas. In order to reduce the incidence of malaria and Plasmodium Falciparum infection, it is customary to implement intermittent preventive treatment with pyrimethamine-sulphadoxine during the second and third trimesters of pregnancy (IPTp) to mitigate the effects of placental malaria on the neonate, employ artemisinin-based combination therapy (ACT) to expedite infection clearance, and implement seasonal malaria chemoprevention.

Other vector control methods, when scientific evidence justifies their use, consist of larviciding and environmental management. Environmental management should be incorporated into the toolkit of malaria control programs as a vector control method. Spanning the entire globe Malaria reduction initiatives are bolstered through the implementation of economic environmental management! Implementing environmental management strategies to mitigate the abundance of malaria vectors necessitates the collaboration of numerous non-governmental and governmental organizations.

Objectives

This study examines malaria knowledge, prevalence, and control in Southern Punjab, Pakistan, with a focus on health-promoting behavior. First, to examine local awareness of malaria transmission, symptoms, and prevention. Second, to assess malaria prevalence in the target area by epidemiological surveys and data analysis. Third, to evaluate local health officials' malaria control strategies. Finally, to examine how vector control, treatment adherence, and community participation reduce malaria incidence and transmission in the region. The study intends to inform the development of more effective malaria control programs customized to Southern Punjab's needs and behaviors.

Methodology

Research Design and Sample Size

This study investigated malaria prevention, awareness, and prevalence in the Southern Punjab Area of Pakistan using a mixed-methods approach. Both quantitative and qualitative techniques were needed in order to fully comprehend the role that health-promoting behavior plays in the fight against malaria in the area. We were able to get 531 final replies from 600 individuals in the Southern Punjab Area by employing a stratified random sampling technique. These responses included a variety of factors, including geography, age, gender, and socioeconomic status.

Questionnaire tool for data collection

The semi-structured questionnaires consisted of five sections that were utilized to collect information from households. Part 1 addressed the demographic information of the respondents, Part 2 focused on their understanding of malaria and locations where mosquitoes breed, Part 3 examined the occurrence of malaria, Part 4 explored the use of anti-mosquito practices as a means to combat malaria, and Part 5 investigated the involvement of households, communities, and stakeholders in preventing and controlling malaria in the Municipality. Approximately thirty-four questions, consisting of both open-ended and closed-ended formats, were employed.

Procedure

Every household participated in the survey through the use of a simple random sample method. To engage in the study, researchers asked household heads throughout the entire Municipality for their assistance. A questionnaire was given out if the residents or participants agreed to take part. The researchers did not fill out the consent form and went on to the next home if the people declined. Until all 531 questionnaires had been distributed, the procedure was repeated. During the administration phase, those who were able to complete the surveys on their own were given the opportunity to do so without support from the research staff. The research team helped those who had trouble filling out the surveys by translating the questions into their local tongue and then using their responses to finish the questionnaires.

Results

Table 1 Demographic Information (N=531)

Variables	**Information**	**F(%)**
Gender	Male	319 (60.0)
	Female	212 (40.0)

Age of Respondent	18-25	287 (54.0)
	26-35	244 (46.0)
Education	High School	178 (33.5)
	Secondary School	196 (36.9)
	College	123 (23.1)
	University	34 (6.4)
Marital Status	Married	354 (66.6)
	Unmarried	177 (33.4)

The study's demographics are presented in Table 1, which provides information about 531 participants. The participants consisted of 60.0% males and 40.0% females. Based on the age distribution, 50% of the participants fell within the 26-35 age category, while the other 50% were in the 18-25 age range. The majority of participants (36.9%) had completed high school, while 33.5% had completed secondary school. A smaller percentage (23.1%) had completed college, and only 6.4% had completed university. Regarding their marital status, 66.6% of the individuals reported being married, while 33.4% indicated being single. The overview of the sample's demographics provides insight into the study's target audience.

Table 2 Participants Knowledge Regarding Malaria

Statements	**Yes %**	**No %**
1. Is malaria something you're familiar with?	76.4%	23.6%
2. Have you ever heard of malaria?	81.3%	18.7%
3. Is malaria a problem in your area?	54.4%	45.6%
4. Community members may experience bites from mosquitoes.	74.7%	25.3%
5. Can human habitation in or near swamps increase the likelihood of malaria?	59.9%	40.1%
6. Previously infected family members.	75.2%	24.8%

Table 2 displays the participants' level of understanding on malaria based on their responses to certain statements. A staggering 76.4% of survey respondents indicated their awareness of malaria. Similarly, 81.3% of participants acknowledged having prior knowledge about malaria. Conversely, just 54.4% of participants perceived malaria as a concern in their area. Regarding transmission, 74.7% of individuals were cognizant of the possibility of mosquito bites within the community, while 59.9% were aware that residing in or near marshes augments the likelihood of contracting malaria. Furthermore, a significant proportion of individuals (75.2%) acknowledged the potential for acquiring malaria from their infected family members.

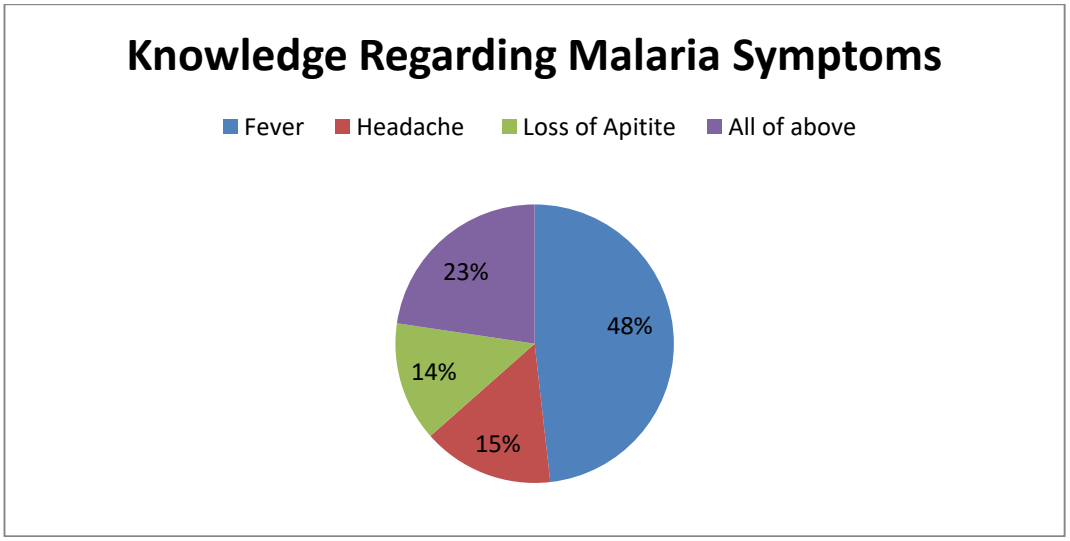

Figure 01- Knowledge Regarding Malaria Symptoms

Figure 01 depicts the participants' level of understanding of malaria symptoms. The percentages indicate the proportion of individuals who were able to identify different symptoms. 48.3% of the interviewees identified fever as a sign of malaria, making it the most commonly recognized symptom among those mentioned. A lesser proportion of individuals reported experiencing headache (15.3%) and lack of appetite (13.9%) as symptoms of the disease. Remarkably, 22.7% of participants accurately recognized and named every symptom included in the list. It is imperative to provide education to the people and enhance their understanding of malaria symptoms in order to enhance the ability to recognize symptoms and detect cases early. The participants' diverse comprehension levels regarding these symptoms underscore the necessity for such programs.

Table 3 Health Authorities Control Management of Malaria in Community

Statements	**Yes %**	**No %**
1. Good environmental sanitation entails maintaining a clean home and yard as well as appropriately disposing of trash.	34.3	65.7
2. Indoor or Outdoor Spray	45.9	54.1
3. Used Mosquitos Repellent	65.3	34.7
4. Used Net Nest for Door Sleep	66.3%	33.7
5. Clearing up clogged gutters and standing water	34.6	65.4
6. The process of clearing or weeding overgrown regions, either alone or in groups.	32.8	67.2
7. Fumigation of waste dumps and pools of stagnant water	25.8	74.2

Table 3 presents the sentiments of individuals towards the endeavors of the community's health authorities in handling malaria. The percentages indicate the number of individuals who expressed agreement or disagreement with each statement. 34.3% of respondents acknowledged the need of maintaining a clean house and yard, as well as properly disposing of waste, as a component of environmental sanitation. Out of the respondents, 65.3% reported using mosquito repellents, while 45.9% stated that they sprayed either indoors or outside to repel mosquitoes. In addition, 66.3% of the interviewees reported using mosquito netting when sleeping. While a smaller proportion of individuals (34.6%) recognized the need of eliminating stagnant water and clearing clogged gutters, and 32.8% acknowledged the value of weeding overgrown areas as an effective measure to control malaria, the number of people who understood this was still considerable. Furthermore, a mere 25.8% of survey respondents expressed agreement with the notion of fumigating landfills and stagnant water bodies. To effectively decrease the occurrence and consequences of malaria, these findings emphasize the significance of increasing community awareness and promoting compliance with recommended management strategies, such as maintaining cleanliness in the environment and implementing steps to prevent disease-carrying insects.

Discussion

Southern Punjab is among the fifteen countries with the highest malaria burden, accounting for 3% of malaria deaths and 2% of cases. Between 2016 and 2019, Pakistan experienced a 32% drop in malaria cases and a 7% drop in deaths. Despite this result, the most prevalent illness recorded or recognized in the outpatient departments (OPDs) of nearby municipal health institutions is still malaria. This study assessed malaria awareness, prevalence, and control strategies. The majority of participants were adults, based on the results. Given that women are usually the ones who clean up after parties and tend to malaria patients, it is not surprising that the majority of replies were female. Regarding educational background, most of the participants had finished elementary, junior, senior, vocational, or post-secondary education. The researchers looked at respondents' educational attainment as a possible predictor of accurate responses. These kinds of findings support the findings of Muluemebet Fikadu and Ephrem Ashenafi (2023) who discovered that better education was linked to more successful means of treating and preventing malaria and that increasing literacy

rates over the long run could lessen the disease's effects. Higher levels of education were positively connected with knowledge of pesticides (agricultural and public health), ITNs, and malaria.

The majority of responses picked fever as one of the serious infection's symptoms, while the remaining respondents listed headache, lack of appetite, and vomiting. This supports a Pakistan Health Service study that claims malaria may be identified and diagnosed using symptoms like fever, shaking, rigidity, headaches, discomfort in the muscles and joints, nausea, and vomiting. The study concluded that there was a year-round risk of malaria for the participants and their close and extended families. According to Talapko et al. (2019), there are 300 million cases of malaria annually, making it a global health concern. Moreover a survey with 35 participants to find out what they thought about hospital-based early diagnosis and treatment of malaria, bed net use, indoor residual spraying, cleanliness, and environmental cleaning. Many responders said that mosquitoes are the vector of malaria. A report claims that Ross identified the mosquito as the malaria parasite's carrier and argued that vector control is essential to managing the illness. Malaria is conveyed by female Anopheles mosquitoes that attack humans from a certain nesting area since the disease only spreads within a limited radius. According to Ahmed et al. (2023), 89% of families identified mosquitoes as the main carriers of malaria parasites.

The majority of responses claimed that stagnant pools attract mosquitoes. Others, however, point out that plants, trash dumps, and sewage tanks also have this function. This supports the earlier research of Zaman et al. (2022) Static pools are a typical habitat for mosquito larvae because they are less migratory than adult mosquitoes, making breeding grounds manageable. Although the majority of malaria vectors favor forested, shady areas, Anopheline larvae are incredibly flexible and can thrive in a variety of water environments, ranging from small, ephemeral pools to larger, permanent bodies of water. All of these species have an aquatic life cycle that begins when a mother mosquito deposits her eggs near water. However, the study supports a previous one that found that the issues of mosquito breeding sites and vector control have gotten worse due to quick urbanization, which is characterized by unhygienic circumstances, contaminated water and sanitation, insecure housing, overcrowding, and inefficient waste management. According to Karim et al. (2021), around 70% of the 40 economic development activities—such as building roads, mining, forestry, and irrigation—modify the environment. This thus introduces immunologically immature individuals into malarial regions and establishes new vector homes (Raza et al., 2023).

The study's findings indicated that insecticide-treated nets (ITNs) and environmental management/sanitation were the next most often used methods of malaria control. The responders stated that traps/repellents and door/window screens were the remaining things. This validates a previous study that suggested long-lasting insecticide-treated nets (LLINs) and indoor residual spraying (IRS) as ways to lower the number of malaria vectors in endemic countries. According to studies by Qureshi et al. (2019), mosquito coils (72%), EM (62%), IRS (54%), and mosquito nets (59%), were found to be efficient in controlling malaria. According to a recent study, personal protection measures (such bed nets), home screening, and drainage are some of the current strategies used to restrict malaria vectors. We now have access to a multitude of advanced vector control technologies (Khattak et al., 2013). By reducing mosquito numbers and infectivity, the majority of vector control strategies seek to stop transmission and safeguard communities; however, because IRS and ITNs only target adult mosquitoes, they are especially effective in this regard. As demonstrated by a previous study conducted in Sarfraz et al. (2022), the age, malaria awareness, education, and household size of family heads greatly increased the incidence of malaria.
Health inspectors and nurses frequently recommended indoor residual spraying (IRS), good environmental cleanliness, group efforts to clean up the region, and sleeping under an ITN or LLIN during community radio lectures about malaria control. This supports a previous study that discovered, depending on the risky behavior of the insect—which can vary depending on factors

including changes in housing circumstances, sleeping habits, and outdoor activities—different mosquito control measures may be required to stop the spread of malaria (Khan et al., 2023). For the prevention of malaria and the control of its vectors, there is no magic bullet. After that, it's critical to assess emerging paradigms for interrupting and controlling malaria and ensuring their applicability in the local environment. These cutting-edge methods will be costly, but they are necessary if we want to eradicate malaria. According to numerous studies, community people need to be educated on the spread of the infectious disease malaria as well as preventative and management measures (Khalid et al., 2023).

Conclusion

The research region exhibits a significant incidence of malaria and holds the record for the largest number of cases reported to the Municipality's outpatient department. Throughout the entire day, dwellings are incessantly targeted by mosquito bites. Government assistance is essential for health inspectors (EHS) and other medical professionals to coordinate community-based malaria awareness programs and public health education activities. In addition to making significant investments in sanitation infrastructure, it is imperative for the government to hire and sufficiently finance a greater number of environmental health officials and sanitation laborers.

References

1. Ahmed, S., Rosario Yslado Méndez, Naveed, S., Akhter, S., Iqra Mushtaque, Malik, M. A., Ahmad, W., Roger Norabuena Figueroa, & Younas, A. (2023). Assessment of hepatitis-related knowledge, attitudes, and practices on quality of life with the moderating role of internalized stigma among hepatitis B-positive patients in Pakistan. Health Psychology and Behavioral Medicine, 11(1). https://doi.org/10.1080/21642850.2023.2192782
2. Anstey, N. M., Grigg, M. J., Rajahram, G. S., Cooper, D. J., William, T., Kho, S., & Barber, B. E. (2021). Knowlesi malaria: Human risk factors, clinical spectrum, and pathophysiology. Advances in Parasitology, 113, 1–43. https://doi.org/10.1016/bs.apar.2021.08.001
3. Daneshvar, C., Davis, Timothy M. E., Cox-Singh, J., Rafa'ee, M., Zakaria, S., Divis, Paul C. S., & Singh, B. (2009). Clinical and Laboratory Features of HumanPlasmodium knowlesiInfection. Clinical Infectious Diseases, 49(6), 852–860. https://doi.org/10.1086/605439
4. Davidson, G., Chua, T. H., Cook, A., Speldewinde, P., & Weinstein, P. (2019). Defining the ecological and evolutionary drivers of Plasmodium knowlesi transmission within a multi-scale framework. Malaria Journal, 18(1). https://doi.org/10.1186/s12936-019-2693-2
5. Fang, S., & Iqra Mushtaque. (2024). The Moderating Role of Health Literacy and Health Promoting Behavior in the Relationship Among Health Anxiety, Emotional Regulation, and Cyberchondria. Psychology Research and Behavior Management, Volume 17, 51–62. https://doi.org/10.2147/prbm.s446448
6. Karim, A. M., Yasir, M., Ali, T., Malik, S. K., Ullah, I., Qureshi, N. A., Yuanting, H., Azhar, E. I., & Jin, H. J. (2021). Prevalence of clinical malaria and household characteristics of patients in tribal districts of Pakistan. PLOS Neglected Tropical Diseases, 15(5), e0009371. https://doi.org/10.1371/journal.pntd.0009371
7. Khalid, R., Raza, M., Selem, K. M., Ghaderi, Z., & Raza, H. (2023). Natural disaster is a wakeup call before it becomes social disaster and tourophobia of eco-destinations. Asia Pacific Journal of Tourism Research, 28(11), 1226–1240. https://doi.org/10.1080/10941665.2023.2293789
8. Khan, M. I., Qureshi, H., Bae, S. J., Khattak, A. A., Anwar, M. S., Ahmad, S., Hassan, F., & Ahmad, S. (2023). Malaria prevalence in Pakistan: A systematic review and meta-analysis (2006–2021). Heliyon, 9(4), e15373. https://doi.org/10.1016/j.heliyon.2023.e15373
9. Khattak, A. A., Venkatesan, M., Nadeem, M. F., Satti, H. S., Yaqoob, A., Strauss, K., Khatoon, L., Malik, S. A., & Plowe, C. V. (2013). Prevalence and distribution of human Plasmodium infection in Pakistan. Malaria Journal, 12(1). https://doi.org/10.1186/1475-2875-12-297

10. Muluemebet Fikadu, & Ephrem Ashenafi. (2023). Malaria: An Overview. Malaria: An Overview, Volume 16(16), 3339–3347. https://doi.org/10.2147/idr.s405668
11. Peterson, M. S., Joyner, C. J., Brady, J. A., Wood, J. S., Cabrera-Mora, M., Saney, C. L., Fonseca, L. L., Cheng, W. T., Jiang, J., Lapp, S. A., Soderberg, S. R., Nural, M. V., Humphrey, J. C., Hankus, A., Machiah, D., Karpuzoglu, E., DeBarry, J. D., Anderson, D. C., Ay, F., & Brito, C. F. A. (2021). Clinical recovery of Macaca fascicularis infected with Plasmodium knowlesi. Malaria Journal, 20(1). https://doi.org/10.1186/s12936-021-03925-6
12. Qureshi, N. A., Fatima, H., Afzal, M., Khattak, A. A., & Nawaz, M. A. (2019). Occurrence and seasonal variation of human Plasmodium infection in Punjab Province, Pakistan. BMC Infectious Diseases, 19(1). https://doi.org/10.1186/s12879-019-4590-2
13. Raza, M., Khalid, R., & Raza, H. (2023). Surviving and thriving through a crisis: a resiliency branding approach to transform airline industry. Kybernetes. https://doi.org/10.1108/k-07-2022-1062
14. Raza, M., Khalique, M., Khalid, R., Jati Kasuma, Ali, W., & Selem, K. M. (2023). Achieving SMEs' excellence: scale development of Islamic entrepreneurship from business and spiritual perspectives. Journal of Islamic Accounting and Business Research. https://doi.org/10.1108/jiabr-02-2023-0060
15. Sarfraz, M., Waqas, H., Ahmed, S., Rurush-Asencio, R., & Mushtaque, I. (2022). Cancer-Related Stigmatization, Quality of Life, and Fear of Death Among Newly Diagnosed Cancer Patients. OMEGA - Journal of Death and Dying, 003022282211406. https://doi.org/10.1177/00302228221140650
16. Sawangchai, A., Raza, M., Khalid, R., Fatima, S. M., & Mushtaque, I. (2022). Depression and Suicidal ideation among Pakistani Rural Areas Women during Flood Disaster. Asian Journal of Psychiatry, 103347. https://doi.org/10.1016/j.ajp.2022.103347
17. Talapko, J., Škrlec, I., Alebić, T., Jukić, M., & Včev, A. (2019). Malaria: The Past and the Present. Microorganisms, 7(6), 179. https://doi.org/10.3390/microorganisms7060179
18. Zaman, N., Haq, F. U., Khan, Z., Uallah, W., Ualiyeva, D., Waheed, Y., Rizwan, M., Mahmood, R. T., & Mahmood, M. (2022). Incidence of malarial infection and response to antimalarial drugs at Districts Lower Dir and Swat of Khyber Pakhtunkhwa, Pakistan. Dialogues in Health, 1, 100035. https://doi.org/10.1016/j.dialog.2022.100035