

The Healthcare Sector in the Gaza Strip during the War: Reality and Determinants

Dr. Umaiye Khammash

Juzoor for Health and Social Development

Since 7 October the Israeli army has been waging a devastating war in the Gaza Strip. The unprecedented war escalation has led to the mortality and injury of thousands of Palestinians. The expulsion, deprivation and dispossession of the Gazan civilian population have led to harsh and dire conditions on different levels. A deep humanitarian crisis has been unfolding, with grave consequences on different levels. Following the outbreak of the Israeli invasion in fall 2023, Gazans witnessed one catastrophe after the other, including the damage of civilian installations and infrastructure. The intense destruction has deemed life unbearable and challenged survival possibilities. The health sector and humanitarian relief have been at the heart of it all. Tracing the events and Israeli policies, one notices that Israel has systematically targeted healthcare as part of its military strategy in the Gaza strip. This policy has had destructive ramifications on the medical infrastructure and personnel, leaving hospitals and primary care facilities in an increasingly vulnerable position. Medics and other human resources working in the health sector have often found themselves under fire. This violates the Fourth Geneva Convention, which clearly emphasizes the protection of individuals working in the medical sector. The convention calls for safeguarding the access to humanitarian relief to civilians in need in times of war. In rule 55 the conventions clearly state that “parties to the conflict must allow and facilitate rapid and unimpeded passage of humanitarian relief for civilians in need”. The Geneva convention furthermore calls for granting protection to the wounded, the sick and the disabled. This includes the protection of hospitals and places where the sick and wounded are collected. It also sheds the light on priority relief for expectant mothers and maternity.

Just two days after the escalation of the war in the Gaza Strip, the Beit Hanoun Hospital in northern Gaza received evacuation orders by the Israeli military. Patients, workers and different health professionals located in Gaza city and northern Gaza were forcibly ordered to leave their premises. The medical personnel were strongly opposed to such measures, insisting on continuing to

provide the necessary medical and emergency services. Despite the shock and rejection of different stakeholders that emphasized the high demand and urgent necessity for medical care, patients and healthcare providers were coerced to move towards Southern Gaza. Al-Ahli Arab Baptist hospital of Gaza was consequently bombarded by an Israeli rocket blast. Other hospitals were threatened, raided, besieged, and shelled, including Al-Shifa Hospital, the largest hospital in the Gaza Strip. Al-Awda Hospital and the Indonesian Hospital have also been targeted and attacked, as part of the Israeli military strategy aimed at the dispossession, deportation and compulsory evacuation of hospitals and medical staff.

Following the Israeli invasion of the Gaza strip and systematic attacks on its health facilities, medical crews and health professionals were not only expelled, but also detained, arrested or received restraining orders. This was a serious blow to the medical sector teams, mostly centered in Northern Gaza, especially in Gaza City. The few hospital teams possessing a certain level of technical and professional expertise, often considered as the backbone of the health sector in the Gaza strip, were overly drained by the harsh circumstances. These teams had been serving two thirds of the Gaza population under siege. As the conflict escalated these and other health providers had to intensify their operations, using increasingly limited resources, amidst a chaotic reality requiring urgent humanitarian relief. Medical services started becoming more and more scarce as Israel increasingly followed a tight grip on supplies entering the Gaza Strip and obstructed the operations of hospitals and health facilities. As the military invasion intensified, heavy artillery shelling in the vicinity or directly bombarding hospitals became a horrific reality for medical teams. As mentioned, healthcare providers were directly shot at, besieged and trapped by the Israeli military. Medics sought to operate amidst different threats, evacuation and deportation orders by the Israeli military. Ambulance and transportation efforts for the sick, injured and wounded were repetitively deprived free passage or mobility access. Needless to say cutting off water, fuel, electricity, food, medical supplies and internet from the Gaza Strip had a devastating impact on hospitals, patients and the overall healthcare sector. Health teams had to continue working on survival mode after sleepless nights, insufficient medical equipment and basic supplies and increasing casualties, multiplying by the day.

They had to do that in a condition of grieving lost relatives, colleagues, friends and destroyed homes and city landmarks.

The Israeli army maintained its strategy of targeting medical facilities in other areas of the Gaza Strip as well, in an attempt to curb the health sector and terminate any future life scope for Gazans. Disrupting health services and constraining medical aid was part and parcel of the military strategy adopted by the Israeli government, impairing the operations of the health sector and rendering it unable to provide basic services. It is worth mentioning that the Israeli policy related to the health sector in the Gaza Strip was explicitly mentioned in a message publicized by a group of influential Israeli rabbis who called Netanyahu to bomb hospitals in the Gaza Strip. Such measures were unfortunately also supported by hundreds of Israeli doctors, violating medical ethics, humanitarian values and international law. According to reports from the World Health Organization and the Palestinian Ministry of Health, the consequences of attacking the medical and health sectors in the Gaza Strip have led to 20 hospital compounds being unable to operate, leaving 16 out of 36 hospitals operating on a triple capacity. The remaining services have been forced to serve an increasing population under intense crisis. Operational capacity has been largely fragile, due to the limited and dwindling medical supplies and health professionals, shortage of electricity and minimum pharmaceutical supply. Medical facilities have also been underequipped, in terms of specialized surgeons, neurosurgeons and staff working in intensive care units. This has been exacerbated by the shortage of sufficient and necessary medical equipment and the dire need of fuel, food and drinking water.

The proportion of beds used in Gazan hospitals has exceeded 350% in general, and 250% in intensive care units. Unprecedented challenges are currently facing the efficiency, quality and accessibility of medical services. More than 94 health facilities and over 83 ambulance vehicles have been damaged and destroyed following Israeli measures targeting the health sector in the Gaza Strip. Over 59 primary care centers have been discharged, leaving only 13 available to serve the southern and some central regions. Medical and health staff have faced over 300 offensive attacks, leading to the death of 377 medical and healthcare staff, and wounding or injuring 764. Moreover, more than 100 personnel working in the health sector have been arrested by the Israelis.

This bitter and unprecedented reality of a population going through the reality of the harsh circumstances in the Gaza Strip, including the military aggression targeting the medical sector, is one of its kind in modern history. The health system in the Gaza Strip is on the brink of total collapse if vital and urgent measures are not taken. Perhaps the most important of these is putting an end to the war and violence waged against the healthcare system, and adhering to international treaties and conventions, especially the Fourth Geneva Convention.

The deterioration of the healthcare system, obstacles posed on accessing health care facilities, the scarcity of available hospitals, limited medicine and medical supplies, the difficulty of laboratory testing and the collapse of preventive and palliative programs have had serious repercussions on patients with non-communicable diseases. Before the war, the healthcare sector was already struggling to provide services to more than 350,000 patients with Cardiovascular diseases (CVDs) (such as heart attack, stroke), blood pressure, cancer, chronic respiratory diseases (such as chronic obstructive lung disease and asthma) in addition to diabetes. The forementioned diseases have normally constituted the main causes of mortality, chronic sicknesses and morbidity in the Gaza Strip. The frequency of these diseases is likely to increase and their consequences and problems are likely to multiply, as more than 80% of patients do not find their basic medicine and will not in the near future be able to obtain the necessary medical services, let alone receive regular follow-up and palliative care. This is likely to aggravate their condition and possibly lead to a relapse. Mortality, impairment, paralysis and disability is likely to exacerbate among these groups, posing extra burden in the rehabilitation, therapy and healing process. Monitoring and controlling risk factors and changing behavioral patterns and early detection have become unattainable under the emerging conditions (population displacement, lack of food and water, poor environmental conditions, deterioration of the health sector under crisis). The emerging catastrophic humanitarian situation is likely to increase chronic and morbidity cases on a wider scale.

Dialysis patients in the Gaza Strip exceed 1,200 cases. This includes about 40 children. As a result of the disruption of hospitals that provided dialysis services, and their reduced capacity, patients requiring dialysis have become susceptible to

higher mortality rates and other health consequences. Electricity and water shortage, and the depletion of essential materials obstruct the dialysis process. Patients have been challenging inaccessibility to hospitals as a result of displacement and absence of safe passage due to the bombardment of hospitals and roads. As a result, the remaining hospitals providing dialysis services have had to reduce the duration of treatment sessions and service hours, with the aim of creating space to accommodate patients on waiting lists. This makes dialysis patients more vulnerable to increased death risks. Several mortality cases have been recorded as a result of impeded access to these vital services.

More than 2,000 cancer patients currently under treatment face similar risks, especially following evacuation from bombarded hospitals. The Turkish-Palestinian Friendship Hospital for Cancer Patients was directly bombed in late October, threatening the lives of patients undergoing cancer treatment in chronic conditions. In addition, cancer patients suffer from inadequacy of the necessary medications due to the prohibition of pharmaceutical entry to the Gaza Strip. Many of them have had to freeze urgent transfer of cancer patients outside the Gaza Strip to receive adequate and supplementary treatment due to inaccessibility caused by the increased blockade and tight border control.

Cases of Chronic obstructive pulmonary disease (COPD) and, to a lesser extent, asthma are exacerbated by exposure to dust related to explosions, especially when not receiving immediate treatment. Diabetes, stress and heart patients, ranging to over 250,000 cases, face unprecedented challenges in finding the necessary treatments and medical follow-up to conduct tests. This especially applies to diabetes patients who rely mainly on insulin. With the absence of insulin many patients are vulnerable and face alarming risks, especially those with type 1 diabetes, approximately 2,000 patients. This particularly affects diabetic children. The death and disability rates among these groups are likely to increase due to complications, and inadequate treatment schemes. This will not only significantly hamper the achievement of the targeted sustainable development goals for non-communicable diseases, but will also increase the frequency of such cases and related disability and mortality rates.

According to officials in the Palestinian Ministry of Health, the United Nations and national and international organizations, infectious diseases are on the rise and leading to collective mortality in Gaza Strip. Even though the epidemiological monitoring system has collapsed, and it is not always possible to follow up on epidemiological conditions or collect data from all areas of the Strip, there are recorded cases and a general consensus that infectious diseases and epidemics are invading the Gaza Strip in an unprecedented manner. This is four or five times higher than the situation prior to the war. This is due to the shortage of food and drinkable water, low immunity under the current crisis, the absence of medicine and detergent products necessary for hygiene and difficulties posed on infection prevention. The destruction of basic infrastructure, leading to sewage complications and water pollution has aggravated the situation. The increasingly high intensity of displaced populations centered in condensed areas is exacerbating the risk of epidemics and infectious diseases in general. This comes amidst increasingly appalling environmental conditions in a reality where these services are already in a declined condition. It is expected that such diseases will increase and persist under the harsh conditions in the current crisis, especially within a reality of famine and infant, child and maternal malnutrition. It is also feared that new forms of pathogens might lead to the increase and spread of additional epidemic cases. It is estimated that about half a million patients are suffering from infectious diseases since the first weeks of the war, including dermatological diseases, upper respiratory tract inflammation, hepatitis B, meningitis, dysentery, watery diarrhea and other cases. Children are facing substantial high mortality due to these infections, to an extent that might equal or exceed the total number of children killed in Israeli bombardments in Gaza to date. Some infections like tuberculosis are expected to spread at a higher pace due to overpopulation, weak immunity, malnutrition and poor living conditions.

Gaza's child immunization program is part of the Palestinian national vaccination program, which had achieved a relatively high coverage rate of 99%. This had contributed to the control of infectious diseases due to immunization among children. It is feared that these efforts and simple former achievements in the healthcare sector will face severe challenges and drawbacks in future as a result of the ongoing war on Gaza. The most important of these challenges is the fact that two thirds of primary care facilities providing immunizations are not functioning anymore. The little remaining vaccination facilities are also often inaccessible due

to current dangerous situation. Added to that is the population dispersion and overall fragmentation in the Gaza Strip, making it complicated to follow up and communicate with the patients. The provision of adequate immunization delivery, preserving vaccines in proper temperatures, and communication and follow up with the cases are important determinants for a successful vaccination program. A quality vaccination program is likely to prevent the re-emergence and spread of certain infections such as measles. It is currently difficult to preserve vaccines in proper temperatures, especially with electricity cut offs. Unfortunately, the current situation in the Gaza Strip as a result of the war, is a fertile ground for the spread and reemergence of measles and other infections which are likely to multiply in condensed and highly challenging settings. Worryingly, the ability to maintain a high coverage of herd immunity is hindered, especially among children. This is due to the fact that children in many areas of northern and center of Gaza have not been immunized in more than three months. Juzoor for Health and Social Development had succeeded to immunize some 2,500 children in the northern regions of Gaza at the time of this report release. Challenges to additional immunization persist due to the reasons mentioned above. This is also due to the fact that in many areas of Gaza, where children live under life-or-death situation under siege, it is not possible to obtain or provide the necessary and adequate immunization.

Gaza's greatest threat is acute malnutrition which has a higher probability when people do not have access to vitamins, micronutrient minerals, iron and proteins that are important elements to enable the body to function properly. Gaza's population is on the brink of increased starvation, with more than 90 percent of its 2.2 million inhabitants facing "acute food insecurity" and a quarter of the population experiencing "catastrophic levels of famine" after being threatened by severe food insecurity worse than before the war. Children in this situation are at higher mortality risks. Furthermore, there have been "systematic restrictions" on aid access to the north. According to sources from the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) only about a quarter of the aid shipments that had been planned to arrive inside the Gaza stripped was allowed in by Israel. This constitutes 30% of the basic needs. According to the United Nations International Children's and Emergency Fund (UNICEF) more than 10,000 children in Gaza are in danger of wasting and severely underweight risks in the upcoming months. This is considered as a severe malnutrition case impeding growth and body

mass, threatening brain development and increasing immune deficiency and death risks. Different data indicate the risk of malnourished mothers giving birth to infants who suffer from acute low weight. Difficulty with breastfeeding milk supply and inability of newborns to breastfeed exacerbates famine, weakening their survival and increasing the risk of resisting infections. This has profound health repercussions on the population of Gaza, especially vulnerable groups of children, women in general, infants and pregnant mothers, newborns and the elderly. The risks of higher incidence of infectious diseases, anemia, micronutrient deficiency, stunting (impaired growth and development) and mortality are increasing as a result.

A large proportion of the Gaza population has begun to be impacted by psychological trauma, due to witnessing death and murder scenes caused by the Israeli artillery and grieving. Added to that is the reality of increased injured and wounded cases, the destruction of familiar landmarks, losing one's home, being stuck under the rubble, losing people under the rubble or watching them come out of the rubble, and the deprivation of basic needs. Relief teams, health workers, women, the youth, the elderly and children have been especially vulnerable to trauma. According to the reports of OCHA, the Palestinian Ministry of Health, the World Health Organization, and various institutions, the high levels of trauma, stress and psychological disorders are exacerbated by the depression, anxiety and nervousness that already existed, to a lesser extent, before the war. Over two thirds of the population has been suffering collective sorts of trauma, especially children who are facing "severe psychological trauma". Symptoms include: "fear, nervousness, convulsions, aggressive behavior, bed urination and being overly attached to their parents". All the forementioned organizations emphasize that the psychological and psychological consequences will have a long-term impact and Post Traumatic Stress Disorder (PTSD) is inevitable. The minimal mitigation and support interventions such as therapy, rehabilitation and adjustment mechanisms will exacerbate the problem. In a reality where psychiatric, psychosocial and psychological therapy is obstructed and hindered by the military, psychological and physical impairment, relationship problems, and resistance to adopting a positive worldview of the present or future are likely to proliferate. Added to that is "the inability to build any healthy perception of life, and the actuality of many psychological and mental disorders from depression, phobia, panic attacks,

involuntary urination and nightmares." This is likely to leave a deep impact on the psychological and well being of Gazans in future, and their collective behavior. Broad and systematic interventions are needed to develop comprehensive psychological programs. Specialized psychological and professional therapists are needed to meet such a challenge.

Pregnant women, children, newborns and infants bear an unimaginably double burden in the Gaza Strip. In addition to being victims of bombardment, murder, destruction, displacement, shortage of food, water, electricity and medicine, they also have to deal with the double weight of pregnancy and childbirth. It is estimated that 55,000 pregnant women live in Gaza Strip, with more than 180 cases of delivery every day. These women have limited access to desired and necessary health services during pregnancy or childbirth, especially due to the dysfunction of the health utility system and the inaccessibility of reaching health providers and hospitals. Psychological well-being, post-natal and physical challenges are on the rise. This makes many women vulnerable to increased maternal and infant mortality rates. Dozens of women have had pregnancy loss (fetus mortality) and went through miscarriages due to the crisis. The duration of preterm labor has multiplied by three to four times since the war. Many mothers have also had early placenta abruption cases. Their pleading for emergency intervention was not instantly met as a result of the situation, leading to their mortality. Women face increased cases of caesarean section and emergency operations without sterilization, anesthetic or painkillers. Morbidity and mortality risks are on the increase among mothers during labor. This situation is exacerbated in northern Gaza. In the south, pregnant women, especially those displaced from the north, are overflowing maternity departments in the remaining functioning hospitals. Maternity service providers have been prioritizing severe or emergency cases, with no option left but to leave other cases behind. Due to limited space, medical staff have been facing the dilemma of having to discharge mothers from hospitals within 3 hours after the caesarean section increasing the risk for infections. This drives the remaining women to give birth in asylum centers, under unsafe or unhealthy circumstances, increasing the risk on their health and well-being and that of their children. This gloomy picture applies to newborn babies. The United Nations Children's Fund (UNICEF) has recorded some 20,000 children born to date since the outbreak of the war. These included dozens of frail children born prematurely (over three weeks before the due date) and way below the average healthy weight and

body mass. Premature childbirth increases the risks to medical issues that necessitate special care.

A snowball effect has been influencing newborn babies. The limited access to necessary medical care has increased the likelihood of delayed development or disability among children. Mortality rates among new born babies have been also influenced by the limited access to incubators, medical supplies, adequate nutrition, and other necessary facilities. This has significantly raised mortality rates amongst newborn babies. The limited function of a number of hospitals caused by the Israeli aggression, in addition to the minimum supply of electricity and fuel have weakened the capacity of incubators. As the need for incubators increased, premature newborns have been deprived access to adequate and/or urgent medical care. A number of children have had to share one incubator due to the limited accessibility to incubators following the war. Some children have also had to be discharged before completing their needed medical care, with priority given to more urgent cases. These tragic and extreme circumstances have significantly exacerbated maternal and neonatal mortality rates according to various estimates and reports by international and local organizations. It should be noted that maternal and neonatal mortality rates are indicators on the severity of the health conditions in any given society. Specific figures that navigate, document and monitor the medical and health conditions in the Gaza Strip are needed but difficult to obtain at the moment due to the medical system being overloaded and unable to confront different war-related issues. Health providers and patients are fighting for their lives in unique and dramatic circumstances. It is therefore not always feasible to develop an ongoing monitoring mechanism covering different indicators under the war.

The war on Gaza has had severe consequences, directly impacting the health and well-being of the population in the Gaza Strip for many years to come. It will not be easy to develop intervention measures that sufficiently cope with the high number of injured, wounded, traumatized and permanently disabled. In reality, it is almost impossible to adequately resolve the long term impact of the war on Gaza and its health consequences, including the collapse of its medical infrastructure, in the foreseeable future. Needless to say that the ideals of the World Health Organization proclaiming universal coverage and such as “Health for all” and sustainable development goals will be complicated, if not impossible, to follow of

in the current reality of Gaza. A professional and highly specialized healthcare sector, capable of responding to the challenges and ramifications of the war, will be vitally important to revive the healthcare sector, navigate proper resources, develop a relief scheme, prioritize issues, and establish a convenient healthcare infrastructure. The healthcare sector also needs to tackle day to day challenges common even prior to the war. One cannot easily predict when the war will end, and what Israel will target in future. It is therefore a dilemma to think of when and how such a process should take place, how to prioritize issues such as therapy and rehabilitation, and how to properly rebuild and advance the healthcare system in the Gaza strip.

The ultimate consequences of the current war remain a mystery. It is difficult to predict or benchmark how severe the situation will further be on different levels, as a result of the current humanitarian crisis and precarious health situation. One must emphasize that the restoration and rehabilitation of infrastructure, including buildings, health facilities, equipment and technical services, will not be possible or sufficient on the ground without a multisectoral strategy that adopts the public health approach and related primary health care programs. This also requires a broad community participation approach that addresses, above all, the emerging concerns and related needs and determinants. It will most probably first and foremost involve ensuring food security for the Gaza population, and dealing with the ramifications of malnutrition and famine among children, women and the elderly. It also requires adequate environmental reforms, including water supply, solid waste treatment, sanitation and housing. Long-term rehabilitation and treatment for injured and wounded cases will be needed, based on a comprehensive psychological, social and physical rehabilitation intervention plan. Special consideration should be giving for children who constitute a challenge facing the healthcare and social welfare system for several years to come.