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The role of providing modern equipment and the possibility of facilitating the task of paramedics

Mohammed Salem Hassan Al Yami[1], Ali Mohammed Abdullah Alyami[2], Faiz Dhafer Abdullah Al Shehri[3], Muhammad Ismail Ali Al-Makarami[4], Mohammed Dafer Abdullah Alshehri[5], Hamad Ali Al Zulig[6], Abdullah Ahmed Awadh ALshehri[7], Hadi Mana Hawam Al Mansour[8], Saleh Ali Muta Al Khaerah[9], Mohammed Dafir Faiz Al Shehri[10]

[1]Ambulance Technician Saudi Red Crescent Authority, Aseer
[2]Specialist-Emergency Medical Services Saudi Red Crescent Authority, Aseer [3]Ambulance Technician Saudi Red Crescent Authority, Aseer [4]Ambulance Technician Saudi Red Crescent Authority, Aseer
[5]Emergency Medical Technician Saudi Red Crescent Authority, Aseer [6]Specialist-Emergency Medical Services Saudi Red Crescent Authority, Aseer [7]Ambulance Technician - Saudi Red Crescent Authority, Aseer
[8]Specialist-Emergency Medical Services Saudi Red Crescent Authority, Aseer [9]Emergency Medical Technician- Saudi Red Crescent Authority, Aseer [10]Ambulance Technician Saudi Red Crescent Authority, Aseer

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Abstract:

The current study aimed to identify the role of medical equipment in helping paramedics to perform the roles required of them with a degree of quality through evaluating the tools and devices used in detection and in the initial diagnosis of cases in emergency situations. The results of the study showed that modern equipment is of great importance in helping paramedics through what these devices enable the paramedic in terms of methods and mechanisms for good diagnosis and, accordingly, writing good reports. The study recommends the necessity of paying attention to providing modern and advanced medical equipment and devices on a permanent basis.

Keywords: providing, modern equipment, possibility, facilitating, paramedics.

INTRODUCTION:

Medical equipment is a set of tools and devices used in the diagnosis and treatment of diseases and injuries. This equipment plays an important and vital role in providing health care and contributes significantly to improving the quality of life . Medical equipment is very diverse to include a wide range of devices and tools that play a pivotal role in diagnosis, treatment and health care . This equipment can be classified ,according to several criteria, including its function, use and technolog.1

Classification of medical equipment according to function : Medical equipment can be classified into several main categories based on the function it performs . This classification helps in organizing and

determining the use of each medical device. Diagnostic equipment is used to determine the disease or health condition and includes imaging devices , x-rays, magnetic resonance imaging , tomography , :ultrasound, and analysis devices, including Blood , urine , cerebrospinal fluid and other tests, measuring . devices including blood pressure , heart rate , blood sugar level , and endoscopy devices Examination of the internal parts of the body using a thin tube equipped with a camera1,2

There is treatment equipment used to provide treatment to patients and includes surgical devices, surgical .instruments , endoscopes , laser devices , and radiation therapy devices Which Used to treat cancerous .tumors and artificial respiration devices that It helps patients to breathe, and dialysis machines that purify the blood in cases of kidney failure , and physiotherapy machines that are used in physiotherapy and rehabilitation . There is also monitoring equipment that is used to monitor and follow up on the patient's .condition, and it includes vital signs monitoring devices :It includes Measure heart rate and blood pressure Blood oxygen level and fetal monitoring devices Which It is used during pregnancy to monitor the health of the fetus , as well as intracranial pressure monitoring devices , which are used to monitor intracranial pressure after surgery or injuries . There is anesthesia equipment that is used during surgery and includes anesthesia devices that are used to deliver anesthetic drugs and respirators that Used to maintain breathing during surgery , and sterilization and disinfection equipment used to sterilize and disinfect medical tools .and equipment, including steam sterilizers Used for sterilization of surgical instruments and UV .disinfection devices that . Used to disinfect surfaces5,8

Accordingly, there is an overlap between classifications according to function, as we find that some equipment can be classified under more than one category, for example, an ultrasound device can be used for diagnosis and guidance during surgery. The field of medical equipment is also witnessing continuous developments, which may lead to the emergence of new categories or modification of existing categories. There are also many sub-specialties in the field of medical equipment, and each specialty has its own equipment . This classification is important because it helps organize medical equipment and facilitates searching for it. It helps health institutions determine their needs for medical equipment, as well as helps determine the appropriate maintenance procedures for each type of equipment. It also helps design . appropriate training programs for employees who use this equipment4,7,9

Classification of medical equipment according to use: It classifies medical equipment according to its - specific use. This classification provides a broader view of the practical applications of these devices and .includes intensive care equipment used in intensive care units , including advanced ventilators that Used to support lung function , intravenous pumps used to give medications and fluids intravenously , and .continuous hemodialysis machines that Used in cases of acute renal failure , dental equipment including oral x-ray machines that .Used for imaging teeth, jaws and drilling equipment that Used for dental drilling and sterilization devices used to sterilize dental instruments , and ophthalmology equipment including .ophthalmic microscopes that . It is used for eye examination and laser devices for vision correction It is used in laser surgeries to correct defects , and in home medical equipment , including blood pressure .monitors that .Used for home blood pressure and blood sugar monitoring devices that It is used to measure . blood sugar levels in diabetics and inhalers used to treat lung diseases12,17,1

Therefore, there is an interference in the classifications as some devices may belong to more than one category. For example, an ultrasound device can be used for diagnosis and guidance during surgery. There is also specialized medical equipment for each medical specialty, such as neurosurgery equipment and obstetrics and gynecology equipment . The field of medical equipment is witnessing continuous . developments, which generates new devices with advanced functions7,13,5

Classification of medical equipment according to technology : This classification reflects the rapid technological development in the field of health care and helps in understanding how devices work and

develop . It includes medical equipment based on radiation , which uses electromagnetic radiation or sound waves to form images of internal organs , magnetic resonance imaging(MRI) devices that use a strong magnetic field and radio waves to produce detailed images of organs and tissues , and computed tomography(CT Scan) devices. X-rays are used to create cross-sectional images. 3D organs and ultrasound devices that High-frequency sound waves are used to create images of organs and tissues , Electronic medical equipment that uses digital electronics for control and measurement, including electrocardiograms(ECGs) .that record the electrical activity of the heart and blood pressure monitors that .Electronics are used for blood pressure measurement and vital signs monitoring devices Which measures a .set of vital signs such as heart rate, blood oxygen level, and also medication pumps that Electronics are used to control and distribute medications , and medical laser equipment that uses laser beams in surgery and treatment , including surgical laser devices used in general surgery, eye surgery, dermatology, and .therapeutic laser devices that It is used in the treatment of some skin diseases and tumors , and robotic medical equipment , where robots are used to perform complex surgical tasks and robots are used to assist surgeons in performing surgeries with high accuracy . This classification reflects the rapid technological . development in the field of health care and helps in understanding how devices work and develop12,10,8

Accordingly, there are some factors that affect the choice of medical equipment, including the type of disease, which determines the type of equipment needed for diagnosis or treatment, and the patient's condition, as medical needs vary according to the patient's age and help in detecting diseases in their early stages, which increases the chances of recovery and his general health condition. Cost is also a factor. Important in choosing medical equipment, especially in developing countries . The importance of medical equipment is that it provides accurate and advanced tools for health professionals to provide better care for patients and helps relieve pain and improve the quality of life of patients , which improves the quality of . health care and contributes to the development of treatment and providing it more effectively7,16,15

DISCUSSION:

Medical technology is witnessing rapid development , leading to the emergence of new medical devices and equipment with enormous capabilities. Modern medical equipment is used in a wide range of medical applications , from diagnosis to treatment and surgery. This field has witnessed tremendous technological developments in recent years, leading to the emergence of more accurate and efficient devices and tools, including medical equipment that depends on artificial intelligence, which is equipment and devices that use artificial intelligence technologies to improve their performance. And make smart decisions and interact with their environment in smarter ways . This equipment has the ability to learn from data and experiences, adapt to changing conditions and improve its performance over time . Examples of equipment based on artificial intelligence are smart robots that are used in many fields such as medicine and logistics. They are able to perform complex tasks with high accuracy and interact with humans and the surrounding environment. Smart medical devices in diagnosis and treatment such as devices that can analyze medical images and identify diseases with high accuracy . And nanotechnology equipment that It is used in developing highly accurate medical devices. The importance of modern medical equipment is that it helps in early detection of diseases and determining appropriate treatment. It also allows for less invasive and more precise surgical procedures , improves the quality of life for patients, reduces the recovery period, and . contributes to the development of medical research11,10,16

Examples of modern medical equipment also include robotic surgery , which allows for precise surgical operations with reduced surgical intervention , and 3D printing of organs, which allows... b. Print replacement prosthetic limbs and Using artificial intelligence in diagnosis Which helps in detecting diseases in early stages and implantable devices . Such as pacemakers and insulin pumps10,1

Therefore, medical equipment is expected to witness greater developments in the future as it becomes smarter, smaller and more customized . These developments will play a fundamental role in improving . healthcare and providing innovative solutions to global health challenges14,12

importance Equipment Medical in Diagnosis healthy-

Medical equipment plays an important role in achieving accurate medical diagnosis, which directly affects the effectiveness of treatment and its results. The importance of medical equipment in diagnosis is due to .the fact that it provides clear images Modern medical equipment such as MRI and CT scans provide high-resolution images of internal organs, helping doctors to accurately identify and locate diseases more precisely . Medical equipment is also used to accurately measure various vital signs such as blood pressure and blood sugar levels, which helps in diagnosing diseases associated with these signs. Medical equipment helps in detecting diseases in their early stages, which increases the chances of recovery and reduces treatment costs. It also helps in identifying factors that increase the risk of developing certain diseases. . Which helps to take appropriate preventive measures It helps in assessing the patient's response to .treatment and modifying the treatment plan if necessary It helps monitor the progression of the disease, evaluate the effectiveness of treatment in the long term, and helps in early detection of any complications .that may occur as a result of the disease or treatment Medical equipment is an essential tool for improving health care and providing accurate diagnosis and effective treatment . This equipment contributes to saving lives and improving the quality of life for patients. It contributes to improving the accuracy of diagnosis . and accelerating the treatment process1,2,3

Despite the importance of medical equipment, it faces some challenges such as high costs , the need for periodic maintenance, and continuous development of technologies . However, technological developments contribute to the development of smaller, more accurate, and more effective medical devices , which makes . health care easier and more effective4

Therefore, we conclude that modern medical equipment allows for accurate images and analyses of organs and tissues, which helps doctors to identify diseases with high accuracy . For example, magnetic resonance imaging(MRI) and computed tomography(CT) are used to provide three-dimensional images of internal organs, which helps to detect tumors and internal damage with high accuracy . Medical equipment helps to detect diseases in their early stages before symptoms appear, which increases the chances of recovery and successful treatment. For example, ultrasound devices can detect small tumors in the breast or abdomen in the early stages. Medical equipment helps to determine the exact causes of the disease, which reduces the need for unnecessary surgeries. For example, endoscopes can examine the intestines and stomach without the need for open surgery . The data provided by medical equipment also helps to customize treatment for each patient individually, which increases the effectiveness of treatment and reduces side effects . For example, gene measuring devices can identify genetic mutations that cause some diseases, allowing doctors to prescribe drugs targeting these mutations . Medical equipment also helps to monitor the progression of the disease and response to treatment, allowing doctors to modify the treatment plan as needed . For example, Ultrasound devices monitor the growth of cancerous tumors after treatment . Accordingly, medical equipment plays an important and vital role in improving health care and providing accurate and rapid diagnosis of diseases . It contributes significantly to achieving accurate and rapid diagnosis of various diseases and medical conditions . These advanced devices provide medical personnel with powerful tools that help them better understand the patient's health condition and make appropriate treatment decisions . . Investing in this modern medical equipment is an investment in human health and well-being5,6,7

The role The first For the paramedic-

A paramedic is a trained and qualified person to provide first aid in emergency and injury situations before the arrival of specialized medical services . His role is not limited to providing first aid, but extends beyond that to include several vital aspects that make him an essential element. In any effective health care system, the primary role of the paramedic can be explained as follows: The paramedic quickly and accurately assesses the condition of the injured person to determine the injuries or diseases he is suffering from. The paramedic also deals with emergency cases such as severe bleeding , shocks , suffocation, strokes and heart attacks . The paramedic provides the necessary first aid for emergency cases such as stopping bleeding , performing cardiopulmonary resuscitation and stabilizing fractures . The paramedic transports the injured person to the nearest medical center or hospital safely while maintaining the stability of his health condition The paramedic communicates with specialized medical services to provide accurate information about the . injured person's condition and guidance on appropriate treatment . The paramedic provides psychological . support to the injured and their families in emergency situations8

The availability of some skills in the paramedic must be taken into account, including theoretical knowledge , as the paramedic must be fully aware of first aid, types of injuries, and methods of dealing with them, and scientific skills, as the paramedic must have the ability to apply theoretical knowledge practically and be skilled in using medical tools and equipment. The paramedic must also be calm and self-confident so that he can deal with difficult situations under pressure. The paramedic must have the ability to work within a team and cooperate with his colleagues in providing first aid , as the paramedic is one of the most important elements in the health care system, as he plays a fundamental role in saving lives and . providing first aid to the injured in emergency situations10

The importance of the role of the paramedic is that he works to stabilize the condition of the injured person and relieve pain, which prepares the patient to be transferred safely to the hospital. He works to reduce complications as the paramedic avoids making mistakes that may lead to additional injuries to the injured person. The paramedic works to coordinate with medical services as the paramedic transfers the necessary medical information about the patient's condition to the emergency team in the hospital, which helps in preparing to receive the patient and provide him with appropriate care. The paramedic works side by side with the medical staff in the hospital to provide the best care for the patient. The paramedic trains individuals on how to provide first aid, which contributes to increasing community awareness of the . importance of these skills11

Accordingly, the paramedic plays an important role in providing primary care to the injured person. He contributes to rapid intervention in emergency situations, assessing the condition, determining priorities , and maintaining vital body functions . The paramedic works to maintain vital body functions such as breathing and blood circulation by performing cardiopulmonary resuscitation or opening the airway if necessary. The paramedic also cooperates with other rescue teams to transport the injured person to the . hospital safely and as quickly as possible13

Methods:

The current research methodology is based on the survey methodology by adopting its tool, which is the questionnaire, and distributing it to a sample of 350 paramedics in order to obtain information about the uses of modern and advanced tools in the field of first aid and to evaluate the importance of these tools in carrying out the role of the paramedic in the best possible way.

Design:

- Interface: The questionnaire design should be attractive and easy to use.

- Organization: The questions were organized in a logical and clear manner.

- Instructions: A set of clear instructions were provided to the participants on how to answer the questions.

- Data collection: The data was collected by distributing the questionnaire electronically to the participants

- Data analysis: By entering the data into a spreadsheet and a statistical program SPSS

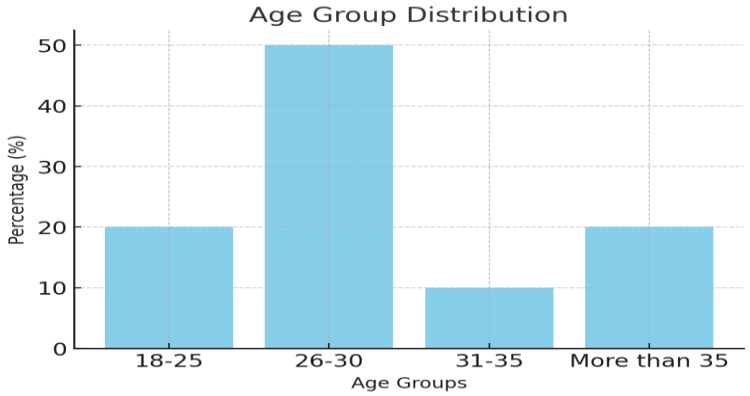
Results:

Table. 0.1 First Section: General Information

1. Age

18-25	**26-30**	**31-35**	**More than 35**
20%	50%	10%	20%

Figre. 1.0 1 First Section: General Information



The figure represents the distribution of age groups in a simple and clear form using columns. You can see that the 26-30 age group makes up the largest percentage (50%), indicating that this group may be the most representative in the studied sample. The 18-25 and “over 35” categories are equally represented (20% each), while the 31-35 category represents the lowest percentage (10%).

Table:2,0 the mean, standard deviation, and relative importance of sample responses:

The item	The mean	Standard deviation	relative
Do you think the equipment available is sufficient to meet your business needs	54 3	0 918	%89 70
Do you consider the equipment available to be easy to use	96 3	1 023	%24 87
Have you received adequate training in the use of this equipment	67 3	1 398	%13 69

Has modern equipment helped improve the speed of your emergency response	5 4	1 363	%24 98
Has this equipment helped to improve the quality of the first aid you provide	46 3	0 668	%11 88
Do you think this equipment has contributed to improving the outcomes of patients and infected people	54 3	0 922	%89 70

The results of the questionnaire analysis showed that there is no relationship between age or job description and the responses to the questionnaire, given that the study sample showed similar responses in both variables. The results of the study also showed that there is a role for a device such as an electrocardiogram (ECG) in helping paramedics perform their roles with a degree of speed and accuracy, and also a blood pressure measuring device has a very important role in identifying problems related to pressure during emergency situations.

CONCLUSION:

Paramedics are the first line of defense in emergency situations. They rely heavily on a variety of tools and equipment to help them provide initial medical care at the scene . These tools are designed to quickly assess the patient's condition, provide the necessary first aid, and stabilize the condition until the patient reaches the hospital. Tools and equipment are an essential part of the paramedic's work. It contributes to providing . immediate care to patients in emergency situations

One of the most important tools used by paramedics is the first aid kit. It is one of the basic equipment .carried by paramedics . This bag contains a variety of tools and medicines, including bandages All types and sizes to stop bleeding, cover wounds and sterile gauze To clean and cover wounds and tape To hold bandages and medications such as painkillers, antihistamines, allergy medications and blood pressure monitors. To measure the patient's blood pressure and resuscitation mask To perform artificial respiration and other devices, an electrocardiogram(ECG) to evaluate heart activity and a blood sugar meter To measure blood sugar levels for diabetic patients and portable ventilators To provide oxygen for patients .with difficulty breathing and a first aid kit for car accidents It contains special tools to rescue people trapped in cars . In addition to the tools, paramedics must be well trained to use these tools and apply first aid correctly. They must also have good communication skills and the ability to deal with emergency situations under pressure . All tools must be sterile and ready for use . Medicines must be stored in a cool, dry place. The paramedic must be well trained on how to use these tools and follow the correct first aid procedures. The first aid kit must be updated regularly and the validity of tools and bandages must be . ensured

The importance of these tools is that they contribute to saving the lives of the injured by providing the necessary first aid before they reach the hospital. They help in gaining time before the arrival of specialized medical assistance and help in alleviating the pain and suffering of the injured. They also help in stabilizing the patient's condition and preventing its deterioration until he reaches the hospital and help in increasing the chances of recovery of the injured by providing appropriate primary medical care , as the tools used by paramedics are an integral part of their work. With the availability of these tools and professional training , paramedics can provide effective primary medical care in emergency situations . Accordingly, the medical tools carried by the paramedic are an essential element for him in saving lives and providing primary medical care in emergency situations.

importance to provide Equipment Modern in Facilitate a task The paramedic is-

is an essential element in the success of first aid operations, as it contributes significantly to improving the quality of services provided to injured patients and reduces the time taken to provide first aid, thus increasing the chances of survival. The importance of providing modern equipment to paramedics is due to accurate and rapid diagnosis through the use of portable X-ray devices and ultrasound devices that help in identifying internal injuries faster and more accurately, which directs paramedics to make appropriate treatment decisions and the use of rapid analysis devices that allow paramedics to assess the patient's condition faster, such as measuring blood sugar levels or oxygen levels. Which helps in determining urgent .medical procedures , and helps in effective treatment through devices

Portable ventilator Which allows the provision of oxygen to patients with difficulty breathing, thus .preserving the functions of vital organs and the use of automated injection pumps that It ensures accuracy and speed in giving medications, which increases the effectiveness of treatment , as well as the use of electrical traction devices that help stabilize fractures and reduce pain , facilitating medical procedures through the use of advanced surgical tools that allow B. Performing some simple surgical procedures at the scene of the accident, such as removing foreign bodies or closing minor wounds, and using portable .anesthesia equipment It is used to relieve pain during some medical procedures. It also helps facilitate communication and contact. Many modern equipment is equipped with wireless communication devices that allow paramedics to communicate with the hospital to provide a detailed report on the patient's condition before his arrival, which helps the medical staff prepare to receive him and provide appropriate care. The use of digital recording devices that allow the patient's medical information to be recorded, which facilitates its transfer to the hospital and speeds up the treatment process , through rapid diagnosis and effective treatment . Modern equipment also enables paramedics to continuously monitor the patient's vital signs while he is being transferred to the hospital, such as heart rate, blood pressure, and blood oxygen level . This helps to detect any sudden changes in the patient's condition and take the necessary measures .immediately

Therefore, providing medical equipment contributes to saving more lives and improving the quality of .health care By providing more efficient and effective ambulance services , investing in modern medical equipment is an investment in the health and safety of the community. It contributes to improving the efficiency of ambulance services and providing high-quality medical care to patients in emergency situations . Modern medical equipment also contributes to raising the efficiency of paramedics and improving the quality of medical care provided to patients in emergency situations. It also contributes to increasing patients' chances of survival and improving treatment outcomes . Modern medical equipment also plays a fundamental role in improving the efficiency of paramedics and providing urgent and effective medical care to patients in emergency situations . This equipment is not limited to facilitating the task of paramedics only , but also contributes to improving the chances of survival of the injured and their arrival . to the hospital in a stable condition

References:

1- Boros, M., Sventekova, E., Cidlinova, A., Bardy, M., & Batrlova, K. (2022). Application of VR Technology to the Training of Paramedics. Applied sciences, 12(3), 1172.
2- Rees, N., Smythe, L., Hogan, C., & Williams, J. (2021). Paramedic experiences of providing care in Wales (UK) during the 2020 COVID-19 pandemic (PECC-19): a qualitative study using evolved grounded theory. *BMJ open*, *11*(6), e048677.

3- Lochmannová, A., Šimon, M., Hořejší, P., Bárdy, M., Reichertová, S., & Gillernová, K. (2022). The use of virtual reality in training paramedics for a mass casualty incident. Applied Sciences, 12(22), 11740.

4- Feerick, F., Coughlan, E., Knox, S., Murphy, A., Grady, I. O., & Deasy, C. (2024). Alternative Paramedic Roles: An International Perspective.

5- Rees, N., Vaughan, N., Day, T. W., Dorrington, K., Rees, L., & John, N. W. (2020). Paravr: a virtual reality training simulator for paramedic skills maintenance. *Journal of Paramedic Practice*, *12*(12), 478-486.

6- Blahova, M., & Hromada, M. (2020, April). Vacuum ambulance for transporting accessible patient. In *Proceedings of the 2020 2nd International Conference on Intelligent Medicine and Image Processing* (pp. 94-97).

7- Piechowski, W., Smereka, J., Drozd, A., Dabrowski, M., Sowizdraniuk, J., Ladny, J. R., ... & Szarpak, L. (2020). COMPARISON OF VARIOUS INTUBATION DEVICED DURING RESUSCITATION OF COVID-19-SUSPECTED PATIENTS BY PARAMEDICS WEARING PERSONAL PROTECTIVE EQUIPMENT. *Журнал Гродненского государственного медицинского университета*, *18*(4), 382-388.

8- Małysz, M., Smereka, J., Jaguszewski, M., Dąbrowski, M., Nadolny, K., Ruetzler, K., ... & Szarpak, Ł. (2020). An optimal chest compression technique using personal protective equipment during resuscitation in the COVID-19 pandemic: a randomized crossover simulation study. *Kardiologia Polska (Polish Heart Journal)*, *78*(12), 1254-1261.

9- Miri, K., Sabbaghi, M., Mazlum, S. R., & Namazinia, M. (2023). The trend of change in the role of pre-hospital emergency medical services in Iran's healthcare system: a situational analysis. *BMC Emergency Medicine*, *23*(1), 99.

10- Jin, Z. C., Zhong, B. Y., Chen, J. J., Zhu, H. D., Sun, J. H., Yin, G. W., ... & CHANCE Investigators. (2023). Real-world efficacy and safety of TACE plus camrelizumab and apatinib in patients with HCC (CHANCE2211): a propensity score matching study. European Radiology, 33(12), 8669-8681.

11- Egeler, M. D., Boomstra, E., Rohaan, M. W., Van den Heuvel, N. M. J., Fraterman, I., Delfos, M., ... & Boekhout, A. H. (2023). "One more chance to survive": the experiences of patients with advanced melanoma and their partners with tumor-infiltrating lymphocyte therapy—a qualitative study and recommendations for future care. *Journal of Cancer Survivorship*, 1-12.

12- Bosch-Compte, R., Visa, L., Rios, A., Duran, X., Fernández-Real, M., Gomariz-Vilaldach, G., & Masclans, J. R. (2023). Prognostic factors in oncological patients with solid tumours requiring intensive care unit admission. *Oncology Letters*, *26*(6), 525.

13- Belohlavek, J., Yannopoulos, D., Smalcova, J., Rob, D., Bartos, J., Huptych, M., ... & Aufderheide, T. P. (2023). Intraarrest transport, extracorporeal cardiopulmonary resuscitation, and early invasive management in refractory out-of-hospital cardiac arrest: an individual patient data pooled analysis of two randomised trials. EClinicalMedicine, 59.

14- Muñoz, J. P., Larrosa, C., Chamorro, S., Perez-Jaume, S., Simao, M., Sanchez-Sierra, N., ... & Mora, J. (2023). Early salvage chemo-immunotherapy with irinotecan, temozolomide and naxitamab plus GM-CSF (HITS) for patients with primary refractory high-risk neuroblastoma provide the best chance for long-term outcomes. Cancers, 15(19), 4837.

15- Damps, M., Buczyński, M., & Wiktor, Ł. (2023). Extracorporeal Cardiopulmonary Resuscitation—A Chance for Survival after Sudden Cardiac Arrest. Children, 10(2), 378.

16- Geistfeld, M. A. (2023). Duty-Preserving Tort Rules as an" Old Category" for Justifying the Loss-of-Chance Doctrine in Medical Malpractice Cases. *DePaul L. Rev.*, *73*, 427.

17- Steinicke, A. C., Schwarze, J., Gosheger, G., Moellenbeck, B., Ackmann, T., & Theil, C. (2023). Repeat two-stage exchange arthroplasty for recurrent periprosthetic hip or knee infection: what are the chances for success?. Archives of Orthopaedic and Trauma Surgery, 143(4), 1731-1740.

18- Marei, H. E., Hasan, A., Pozzoli, G., & Cenciarelli, C. (2023). Cancer immunotherapy with immune checkpoint inhibitors (ICIs): potential, mechanisms of resistance, and strategies for reinvigorating T cell responsiveness when resistance is acquired. *Cancer cell international*, *23*(1), 64.
19- Swartjes, H., van Rees, J. M., van Erning, F. N., Verheij, M., Verhoef, C., de Wilt, J. H., ... & Koëter, T. (2023). Locally recurrent rectal cancer: toward a second chance at cure? A population-based, retrospective cohort study. Annals of Surgical Oncology, 30(7), 3915-3924.
20- Dalal, S., Goel, P., Onyema, E. M., Alharbi, A., Mahmoud, A., Algarni, M. A., & Awal, H. (2023). Application of machine learning for cardiovascular disease risk prediction. *Computational Intelligence and Neuroscience*, *2023*(1), 9418666.

Survey

The current study aims to identify the role of providing modern equipment and the possibility of facilitating the task of paramedics by designing a questionnaire form with a set of basic axes. Please complete this form, knowing that all the data mentioned therein are in complete confidentiality and only for the purposes of scientific research.

With respect and appreciation

Researcher

1- Age:

18-25

26-30

31-35

2. Job Type

Paramedic Ambulance Technician Ambulance Doctor

Second Section: Availability of Modern Equipment

3. Is the ambulance in which the following modern equipment is operated available?

Electrocardiogram (ECG)	Yes, No
Blood Pressure Measuring Device	Yes, No
Blood Oxygen Measuring Device	Yes, No
Mobile Ventilator	Yes, No
Suction Device	Yes, No
Integrated First Aid Bag	Yes, No
Installation Tools and Algebra	Yes, No
Burns Ambulance Tools	Yes, No
Traffic Accident Ambulance Tools	Yes, No

4. Do you think the equipment available is sufficient to meet your business needs?
Yes No Somewhat

5. What additional equipment do you need?
(Provide space for a response)

Third Section: Ease of Use of Equipment

6. Do you consider the equipment available to be easy to use?
Yes No Somewhat

7. Have you received adequate training in the use of this equipment?
Yes No

8. What difficulties do you have in using this equipment?
(Provide space for a response)

9. Has modern equipment helped improve the speed of your emergency response?
Yes No Somewhat

10. Has this equipment helped to improve the quality of the first aid you provide?
Yes No Somewhat

11. Do you think this equipment has contributed to improving the outcomes of patients and infected people?
Yes No Somewhat