Robots technology

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Introduction:

Over the last few decades, technology has advanced at a rapid rate and spread around the globe. The affordability and accessibility of technology has brought many benefits, including better scientific research, improved quality of life, and a higher average life expectancy in a number of countries. Since many aspects of daily life are automated, people can focus on their careers and interests many robotics companies are already creating machines that look and speak like human beings.

History of nursing robot

Development of nursing robot system includes mobile robot system to help physically handicapped people. Completed in 1986 the nursing robot was the one of the first fully functioning mobile robot equipped with manipulator arm. Gasto-nurse is the first multimodal robotic scrub nurse to assist surgeons by passing and retrieving surgical instruments during simple procedures

Definition of Nursing Robot:

Robotic nurses are robots that help patients physically move around or perform simple tasks like taking vital signs or delivering medicine, & help administer care and support people in hospital care facilities.

Advantages of nursing robot (benefits):

1. **Help with heavy lifting.** Caregiver injuries are common and lead to missed work for the caregiver (to say nothing of pain and potential disability) and sometimes leave an older adult without a caregiver.

2. **Serve as a communication tool.** Technology is changing at record speed. If an older adult can't (because of low vision or dementia, for example) or doesn't want to learn to use the latest machine, they can simply ask the robot to serve that function. Imagine: "Robot, call my daughter," and the robot makes the connection with Skype or Face Time-type technology.

3. **Provide reminders:** To take medications, go to appointments, eat, exercise, and anything else relevant to each individual person.
4. **Help with monitoring**. Home monitoring has proven benefits in diseases such as heart failure and diabetes. Robots might monitor many medical conditions and relay that data back to a nurse or doctor who could then have a more informed meeting — in person, or via robot-chat with the patient.
5. **Promote independence.** For older adults, their greatest fear is ending up in a nursing home, and many don't like the idea of strangers in their house or apartment much better. A robot that helped with basic chores might delay or diminish the need for unwanted human help.
6. **Decrease burden on family and friends.** Many of my patients report that their greatest source of distress is the burden they feel they place on their families. If robots could help so that families spent more time enjoying each other's company, rather than doing mundane chores, that would be a win-win. Very old and even the most devoted family and friends have other things to attend to.

Disadvantages of nursing robot

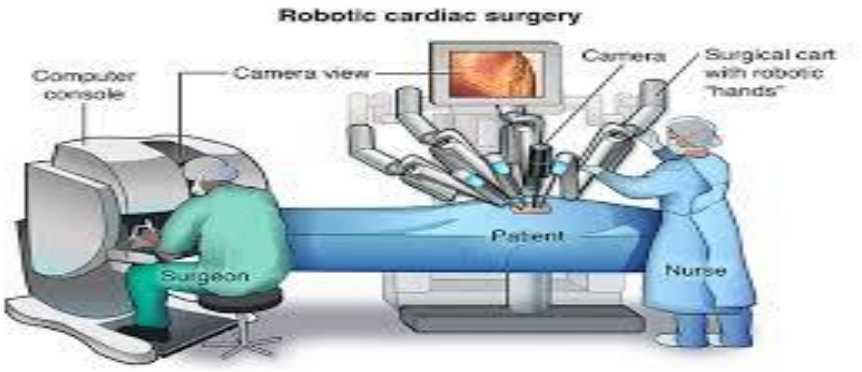
1. **The hight cost of robot.** Nurse robots are not being produced in multiples anywhere yet.
2. **Lack of privacy** like Pearl, is her touch screen and camera. Pearl is being designed to help remind, and make sure patients take their

medicines, and also to eventually be in contact with their physician. This surveillance could lead to ethical issues of privacy.

3. **Many people feel a robot will never compare to a human.**

Applications in Health/Care and Social Care

A- **Traditional Specialized Medical Robots:** Robots for Surgery and Rehabilitation have focused mainly on highly specialized platforms for surgery or rehabilitation and low levels of autonomy, relying on tele-operation and/or the presence of qualified staff to enable and ensure appropriate conditions and use



Benefits of surgical robot

- Decreased length of stay
- Decreased surgical complications
- Decreased blood loss
- Decreased pain management after surgery
- Faster recovery
- Quicker return to daily activities

In Urology the robotic surgery system is used in:

1. Radical prostatectomy.
2. Radical cystectomy.
3. Cyst decortication.

In Cardiac the robotic surgery system is used in:

1. Mitral and aortic valve replacement.
2. Aorto-iliac bypass, off-pump synchronized bypass.

Humanoid Robots for Entertaining, Educating and Improving the Communication Skills of Children with Special Needs:-

1. Several studies have looked at autism spectrum disorders, providing robot therapy that improves the social and communication skills of children with these or related disabilities

Home Assistance Robots for an Ageing Society

1. Home assistance robot that can serve as home-assistant to improve the quality of life in an ageing society. The work systematically identified relevant tasks and assistive technologies in order to provide pertinent and prioritized support for older people