Biometric Identification of the Newborns to Prevent Switched Baby in the Hospital a "Legal Identity"

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Abstract. In Indonesia, newborn identification is still done conventionally using wrist bands and foot stamps. The problem is that these wristbands or stamps only work for the duration of the newborn's stay in the hospital, during which time they can be removed or altered. The objective of this article is to suggest a new biometric identifying technique for newborns based on palmprints as a Government Regulation to prevent switched babies. Palmprints are a lucrative biometric since they provide identification features at a variety of image resolutions. This report presents a review of the research on the use of biometric identification in newborns to improve patient safety. The results of this review show that the use of biometric identification will eliminate parents' worries about babies being switched and provide strong evidence that each mother will leave the hospital with her own child. In Law No. 17 of 2023 on Health, there is no article that clearly regulates the prevention and resolution of switched baby. However, the law provides an opportunity for further rules regarding infants and children to be regulated in Government Regulations. Therefore, for justice and legal certainty, it is necessary to regulate the prevention and resolution of switched babies by identifying newborns using palmprints which will be formulated in a Government Regulation as an implementing regulation of the Health Law. This Government Regulation aims to give babies the fundamental right to their identity and to utilize technological developments, which is in accordance with the UN Declaration on the Rights of the Child.

Keywords: Biometric identification; legal identity; newborn; switched baby.

1 Introduction

Recognition of the newborn from birth is becoming ubiquitous and necessity. In maternity services at hospitals, identification of newborns is the main task of the team of health workers immediately after birth. In developing countries such as Indonesia, maternity ward security remains relatively lax. These facilities are often overcrowded with patients, increasing the risk of incidents like infant mix-ups or even abductions. The distinct characteristics of newborns make accurate and consistent patient identification particularly challenging. In cases of multiple births, infants in the hospital may have the same birth dates, medical record numbers, and even

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surnames, which increases the risk of misidentification.[1] A one-year research at Beth Israel Deaconess Medical Center in Boston found that 26% of neonates treated in the neonatal intensive care unit (NICU) were at risk of being exchanged because their identities were identical.[2]

Thus, a more accurate method of identifying newborns is essential to ensure patient safety. In Indonesia, identification is still performed using conventional methods such as wristbands and foot stamps. However, these tools are only effective during the newborn's stay in the hospital, and they can be removed or tampered with, making infants vulnerable to being switched. Children who are affected by such incidents may end up being exchanged at birth and raised by non-biological parents, particularly in hospitals specializing in maternity care.[3] Gaille B (2017) reported that around 28,000 children of 4 million births were switched every year.[4] Another report states that about 20.0000 children are commuted every year due to different identification errors.[5] Saggese et al (2019) stated More than one billion people around the world lack official legal identification, and nearly half of this population consists of infants and children.[6] There is a widespread and persistent fear associated with pregnancy, rooted in the possibility that newborns may be accidentally or deliberately switched at birth. Davis et al. (2001) stated that in the United States, media reports about baby changing caused anxiety in some patients, and in an experimental study, 10% of mothers reported anxiety about baby changing.[7]

Until recently, in daily practice, newborns were commonly identified by associating their identity with that of their mothers. In hospital settings, identification typically involves placing a bracelet on the baby that includes details such as the infant’s name, date of birth, and the names of the parents, family members, or caregivers. However, these bracelets are easily removed or lost, making them unreliable. As a more secure alternative, biometric identification has been proposed. This method involves verifying an individual's identity through unique physiological or behavioral characteristics.[8] A major challenge lies in the current limitations of technology, which cannot yet capture biometric data from newborns in a way that allows for accurate and consistent matching as they grow into adulthood. Without reliable means of identification, children are susceptible to risks such as child trafficking and the misuse of their identity.

Various biometric techniques have been explored for identifying infants, such as iris scans, palm vein recognition, facial and ear recognition, and fingerprint or palm-based methods. However, none of these approaches have demonstrated consistent reliability for newborns. Despite ongoing efforts over the years, achieving dependable biometric identification for this age group remains a significant challenge.[9] In this article, we discuss the importance of reliable identification methods, the biometric landscape for newborns, barriers and success stories, and discuss specific failure modes specifically for newborns. When choosing a biometric identification method, universality, acceptability, persistence over time and interoperability between acquisition methods should be taken into account. Thus, a method for biometric identification of newborn babies was found that can be applied in Indonesia.

2 Research method

This paper is a literature review related to the application of biometric identification to newborn babies in various parts of the world. The study focuses on the selection of the most effective and

efficient methods and the feasibility of their application in Indonesian hospitals. The aim is to provide recommendations regarding biometric identification methods for newborns as an effort to increase the accuracy of newborn identification in order to achieve patient safety. The proposed system is expected to solve the problem of switched baby occurring in many countries. Data and information were obtained from documentary sources related to biological authentication topics in domestic and foreign countries.

Generally, individuals seeking treatment from hospitals or health care providers expect to receive competent medical care. Under this principle, providers may be held liable for damages if the care they deliver is negligent, unskilled, or careless. A breach of professional duty can stem either from the contractual relationship between doctors and patients or from duties arising out of their consensual and fiduciary relationship. Legal theories of tort liability relevant to cases involving switched babies include negligence, vicarious liability, *res ipsa loquitur*, and negligent infliction of emotional distress..[10] A negligence claim arises when a plaintiff proves that the defendant owed a duty to the plaintiff and breached that duty, causing injury and damage. Apart from that, there must also be a sufficient cause and effect relationship between the negligent act and the plaintiff's losses, as well as actual detrimental to the plaintiff. The standards applied to negligence claims are “reasonable care.” This means that the person is quite wise the defendant's position will be able to protect against unreasonable risks of harm.

Respondeat superior doctrine, the hospital is generally responsible for the mistakens made by employees. The hospital is only responsible for employee behavior that is within the scope of their employment or previously carried out under the direction of the hospital. Res ipsa loquitur. According to the doctrine of restitution, the injury must be of such a nature that it would not haveoccurred but for the defendant's negligence. In cases of switched babies, liability under res ipsa loquitur may attach due hospital staff are responsible for proper identification and placement from newborn babies. So, the argument is, there is no staff negligence, the newborn baby will be given to the right mother. Negligently Causing Emotional Distress. Negligent infliction of emotional distress (NEID) is an offense defined as emotional distress caused by negligent acts. Emotional stress suffer from negligence occurs when the defendant is non - spontaneous, causing emotional disability to others and damaging the body.

3 Result and Discussion

3.1 Biometric identification of the newborn

According to the United Nations General Assembly Resolution, Article 7 of the United Nations Convention on the Rights of a Child reads:

“The child shall be registered immediately after birth and shall have the right from birth to a name, the right to acquire a nationality and, as far as possible, the right to know and be cared for by his or her parents.”[11]

The ability to prove one personality is the basis of human rights, as well as services of state and private sector. Therefore, it is necessary to provide identity evidence without discrimination or no difference based on geography; Race, ethnic, or religious groups; Status as a member of nomads, routes, and routes; A position that evacuated in search of citizenship, refugees, asylum

or uncertain nationality; Or the status of foreign or temporary employees born in the country; Or other characteristics. Regardless of the type of identification issued, it must be legally valid and sufficient to provide access to the rights and services to which a person is entitled.[12] Identity management refers to the creation of legally valid proof of identity for each individual and maintaining a system of control over information and documentation related to an individual's identity, including an individual's biometric data.[13]

Safe patient care begins with accurately identifying the patient to provide appropriate care. Failure to correctly identify newborns and match their identity with the appropriate physician for assessment, intervention, or administrative reasons can compromise patient safety. Hospitalized newborns present a unique identification challenge as they often have similar or identical dates of birth, similar medical record numbers and, in such cases of twin or twin births, shared surnames.[14] The Royal College of Paediatrics and Child Health recommends that the identification strip is placed on your baby immediately after birth and during care to ensure it does not become detached or worn out. Particular care must be taken when identifying twins when both babies are being treated either in the postpartum care unit or in the neonatal intensive care unit (NICU). The problem is that these bracelets or pads only work for the duration of the newborn's stay in the hospital unit, during which time they can be removed or changed, making the newborn susceptible to being swapped. The National Patient Safety Agency's (NPSA) 2005 advice on safer patient identification practice should encourage trusts to review their existing patient identification systems.[15] As such, biometric newborn identification technology continues to develop.

Biometrics refers to automated recognition based on biological or behavioral characteristics of living human beings. Biometric data refers to distinctive, quantifiable, and dependable physical or personal traits that can be used to identify or authenticate an individual's identity. Biometric systems fall into two main categories: identification and verification. Identification involves matching a person against a biometric sample or a database of stored data. Verification, on the other hand, confirms an individual's identity by comparing their biometric information with previously stored records. Generally, the identification process is more complex than verification. Identification can produce a one-to-one match, whereas verification produces a one-to-one match.[16]

Therefore, to avoid someone having a dual identity, it is important to use individual characteristics that are strong, unique, universal, and measurable. Scientifically, biometrics enough to meet these requirements. Various efforts have been made was created to investigate the feasibility of using different biometrics characteristics for verification and identification of babies and toddlers (Newborns 1 day - 2.5 years).[17] The advantages of developing such a system are diverse. Biometric identification can protect children from theft of personal data and identification fraud, help reunite lost children with their parents, improve the systems for combating border control in the fight against children's trafficking and helping electronic records[18]

Biometrics is an automated method of identifying a person or verifying a person's identity based on physiological or behavioral characteristics. Examples of physiological characteristics include images of hands or fingers, facial features, and iris recognition. Biometric recognition can be used in identification mode, where the biometric system identifies an individual from the entire registered population by searching the database for a match based only on biometrics. This

biometric data can also be used in verification mode, where the biometric system verifies the claimed identity of a person based on a previously registered template. This is also called "one-to-one" matching. Biometrics is therefore a physical or physiological characteristic or a behavioral characteristic which can be measured with which a person is identified or verified the alleged identity of a person.[16]

The use of biometrics for the identification of humans offers several unique advantages. Biometrics can be used to identify it as yourself. Helves such as smart cards, magnetic patrol cards, photo identity cards, physical keys, etc. Can be lost, stolen, duplicated or left at home. Another method of identification that is often used in Indonesia is foot stamps. These foot stamps often have an imperfect stamping process so the results are not optimal as an identification tool. Apart from that, this foot stamp paper is also at risk of being lost in the storage process. Since ID bracelets can be lost or maliciously removed, alternative solutions based on biometric recognition are interesting. Biometrics promises fast, easy-to-use, accurate, reliable and cost-effective authentication for various applications. There is no “perfect” biometric system that can meet all needs. All biometric systems have their respective advantages and disadvantages. However, a biometric system must meet certain general characteristics to be usable.[16]

We have studied a number of biometric methods for infant identification. These include eye scans, palmar vein scans, ear and face recognition, and finger and palm-based methods. To date, none of these methods have proven reliable for registering newborns and young children.[9] A particular challenge is that current technology is unable to capture biometric information from newborns and accurately and reliably match it to the same individuals throughout growth and adulthood. This leaves children vulnerable to exploitation in a variety of ways, such as identity theft and newborn trafficking. Research has been conducted to develop biometric recognition systems for newborns. However, challenges remain to be overcome to develop a complete biometric system for newborns. Several modalities were reviewed before deciding to focus on fingerprints, iris and external ear shape. This modality was selected after conducting an evaluation based on seven criteria of biometric features, namely: universality, uniqueness, durability, collectability, performance, acceptability, and evasion resistance [18].

With the increasing popularity of biometric technology, it is interesting to know whether biometrics can provide better solutions for the detection of newborns, infants, and young children. For targeted applications in which a child interacts with an operator (e.g., a healthcare professional), biometric features based on friction patterns (e.g., fingerprints) have been tried. However, there are a number of applications in which the capture of biometric features may not be controllable and only facial images are available. Face and voice biometrics may work on older children, but are not effective on newborns and toddlers. Facial and speech biometrics may work for older children, but are not effective for newborns and toddlers. Tread crease pattern shows promise for newborns, but becomes less easy to use as they get older and start wearing shoes. There are also concerns about the hygiene of feet that may come into contact with biometric sensors. These concerns also translate into research into the use of instep friction patterns. Friction patterns on the fingers (also called fingerprints) and palms (palm prints) show more promising results.

The main challenges in obtaining fingerprints are that conventional fingerprint scanners do not buy fingerprints with a sufficient resolution in order to detect newborn fingerprints, and the

contact properties of conventional scanners are sometimes not suitable for the soft and separable skin of newborns. One approach is to use contact-based scanners with a higher resolution in order to increase the accuracy of using a single fingerprint.[18] Instead, newborn need to be helped through the process and may demonstrate behavior things that don't help, such as curled fingers and palm grip reflex. One of the first construction considerations is whether the newborn's hand is to be kept on the right or not position of the newborn and a point-and-shoot camera or a smartphone is used to get the image. Open your hands to take fingerprints or palm prints. Another important factor is that newborns display unique skin characteristics from the first days and weeks of life. For example, newborns are born with their bodies covered in various protective fluids that disappear soon after birth, and this is normal as the outer layer of skin of newborns flakes or peels off in the first week of life. Likewise, physiological changes that improve the integrity of the skin, including keratinization, collagen development, and cross-linking of components, continue to develop after birth, and in some people the case may not be stable enough for contact-based fingerprinting until they are over a year-old age.[9]

Two other promising biometrics for young children are the shape of the external ear and the iris. The advantage of the external ear is that the biometric data collection is non-invasive and hygienic, as it is completely contactless.[19] There is still a lack of information in this area that needs to be addressed, such as the influence of growth on ear recognition, more details are provided in the article by Ntshangase.[20] However, larger data sets and longitudinal studies are needed to obtain more reliable information on ear shape persistence and ear recognition performance in infants.[21] Iris is known to be effective for introductions starting at 18 months of age. There is a need to study iris image acquisition and recognition performance in infants. Initial results from this study indicate that the difference in image quality between adult and infant iris images is very small.[22]

The most famous biometric technique is the recognition of the face.[23] People always use the recognition of the face to identify other people.[24] That's why in the field of biometry the recognition of the face has become one of the most active research areas.[25] This research can be applied in various ways, from developing systems that identify individuals using still facial images to creating systems capable of recognizing dynamic, moving faces against complex or cluttered backgrounds.[26] More advanced systems can recognize specific people in video recordings or movies.[27] Face recognition records the spatial geometry of distinctive facial features.[28] Face recognition technology may encounter performance issues caused by factors such as uncooperative user behavior, lighting, and other environmental variables.[29] Experimental results show that currently available face recognition technology is not ready to recognize very young children, face recognition recorded at age 3 or older may be possible.[29]

Iris recognition has shown outstanding effectiveness in identifying adult individuals across different imaging conditions.[30] However, keep in mind that these results require a high level of cooperation from the subject, making its use difficult in infants.[31] However, with recent improvements in imaging technology and iris recognition algorithms, researchers are beginning to investigate the use of iris recognition for children. Basak et al. (2018), studied various biometric modalities and the results showed good performance for iris and fingerprint as they performed much better than facial biometrics. The main challenge with iris biometrics for children is data acquisition because iris biometrics is an active biometric.[32] Nelufule et al. 2019, they showed that the iris of children's eyes is closely related to the iris of adults in terms of quality assessment and usefulness as a biometric element, as long as a clear iris image is

obtained. Infants cannot yet socialize and need to be directed to look at the camera to capture iris images.[33]

Humans have relied on fingerprints for personal identification for centuries and have utilized them in criminal investigations for more than a century.[34] The reliability of fingerprints as a method for personal identification is widely recognized.[33] Fingerprints consist of unique patterns of ridges and grooves found on the surface of the fingertip. These patterns are distinct for every individual and remain consistent throughout a person's life. Remarkably, even identical twins do not share the same fingerprints. Variations can also exist between different fingerprints of the same person. The quality and detail of a fingerprint captured by a biometric system depend on several factors, such as the pressure applied during scanning, the presence of injuries or deformities, and the moisture level of the skin. Consequently, fingerprint-based biometric systems rely on identifying unique characteristics—such as ridge endings, edges, and bifurcations—commonly referred to as minutiae, to ensure accurate identification.[35]

Fingerprint identification offers several advantages: it is a well-established technology supported by extensive research, remains stable over time without natural changes, is broadly trusted within the security field, and is relatively cost-effective compared to other biometric systems. Some drawbacks of fingerprint identification include the possibility of prints wearing down or being altered over time, vulnerability to noise and distortion caused by dirt or finger movement, discomfort among users due to the shared use of fingerprint scanners, and cases where individuals intentionally damage or remove their fingerprints.[36] This form of biometric recognition is based on analysis of the shape of the outer ear, earlobes, and bone structure.[37] A sensor (such as a camera) collects a side profile image of the user's head. Based on this, the system automatically locates the ear and isolates it from the user's surrounding hair, facial area and clothing.[36] The algorithm uses a combination of color and depth analysis to first localize the ear canal, then generate an outline of the visible region of the ear.[38]

From a biometric point of view, the ear is very universal and its structural diversity is considered unique enough to allow its use as a biometric trait.[39] However, this is not the case for very young individuals (ages 4 months to 8 years) and older adults (over 70 years), as the geometry of the ear tends to change more significantly in these age groups.[16] According to existing literature, auditory recognition in children was initially explored in 1960 by Fields et al., who manually examined the ears of 206 newborns in a database. In response to concerns about the misidentification of infants, the researchers sought potential methods for identifying newborns based on their ear features. Their study concluded that visual analysis of the ear could serve as a reliable means of distinguishing newborns.[40]

3.2 Regulation of the newborn identification as a legal identity

Identification of newborns is a legal right recognized by international and national law. In addition, improving the accuracy of correct patient identification is an important program for patient safety solutions. The identification of newborns is a right recognized by both parties at the national and international level. For example, there is Article 7 of the Convention on the Rights of the Child (November 20, 1989). It establishes that every child has the right to a name and the right to acquire a nationality from birth, while Article 8 establishes that States are obliged to protect and, if necessary, restore the identity of a child if it has one, in part or in full is lost.

The World Health Organization has identified correct patient identification as a priority in the context of policies aimed at improving the safety of health services. Based on the strategy proposed by global health organizations, health services organizations must have a system in a place that emphasizes the main responsibility of health care personnel to verify the identity of patients, To promote the use of at least 2 identifiers to verify the identity of patients and standardize the approach to the identification of patients between the different facilities of the health care system. Thus, health professionals are employed in hospitals with maternity in charge of guaranteeing this right.[41]

Due to public concerns about the baby switch, hospitals are implementing it additional security measures. Hospitals can limit their liability, among other things, by implementing special identification procedures for newborns. In addition to wearing a matching identification (ID) band around the ankle and the newborn's wrist, an identification band is also clipped to the umbilical cord. This policy includes transportation the baby was only in a crib on wheels (which would raise suspicion in anyone walking by with newborns), limits the handling of newborns to certain color-coded staff identify, and discusses with the mother who should and should not handle newborns. Other safety measures include a wristband alarm system and the doors are monitored by a high-quality digital camera recording system. Safety measures are important to help reduce hospital liability. The Joint Commission on Accreditation of Healthcare Organizations mandates that hospitals implement a safety plan to safeguard newborns and prevent them from being placed in the wrong care.[10]

In Spanish law, under the Organic Law of 1996 for the Legal Protection of Minors, children enjoy the rights recognized in the Constitution and in international agreements to which Spain is a party.[5] Finally, the Law on Administrative Measures of 2015, reforms in the field of the administration of justice and civil status, emphasizes that the security of the identification of newborns and the determination of doubts about the relationship between mother and child through the implementation of the necessary medical measures, biometric and laboratory tests, if possible, more important.[42] The United States has handled several cases of baby change and can provide assistance in this regard. However, it should be noted that the conditions of the legal and socio-economic system there are very different from those of countries such as Indonesia. However, a court ruling could provide further clarification on this issue. Regarding switched babies, U.S. Representative Sheila Jackson-Lee of Texas has introduced a bill that would provide federal oversight of this area.[43]

The aim of this law is to prevent incidents of switched babies. The proposed legislation mandates the use of identification procedures, introduces penalties for failure to comply, and establishes criminal consequences for the deliberate switching of newborns. As part of this legislation, the Minister of Health will work in consultation with health organizations and issue a formal directive focused on preventing such occurrences. This law will result in civil penalties up to $50,000 for hospitals found to be in violation of this rule. Apart from that, there will be criminal sanctions against perpetrators who do this intentionally altering or destroying newborn baby identification records with the intent that the newborn baby be misidentified. These sanctions may include imprisonment no more than 10 years and a fine of up to $500,000.89.

In South Africa the rules are based on Article 28 of the Constitution of the Republic of South Africa and the Children's Act, in particular Articles 7 and 9, which apply to the best interests of the child and furthermore 'in all matters relating to the care, protection and welfare of children,

the rules that the best interests of the child shall be of paramount importance.' Section 19 of the Children's Act is also important and states that the biological mother of a child has 'full responsibility and rights in relation to the children', while Section 20 states that 'the biological father has full responsibility and rights in relation to this matter.' child...if he was married to the child's mother at the time of the child's birth, at the birth of the child, or at any time between the conception or birth of a child.' From the regulations it can be seen that the government is very concerted towards child protection, children's rights and child care. This regulation does not specifically regulate provisions in cases of switched babies, hospital obligations and efforts to prevent switched babies (regulations regarding the identification of newborns, baby safety during care).[44]

Brazilian is working to tackle baby switching in maternity units with a combination of biometrics and AI to create a profile that connects mother and baby minutes after birth and can be checked when parent and child leave the hospital. Basically, within minutes or hours of birth, a biometric profile is created of the mother, the other of the baby, and the two are linked. To then leave the health facility, a biometric scan is performed on the mother and baby to ensure that they are a suitable match, so they can leave. Because the baby\'s fingerprints have changed significantly since the initial scan, the AI takes action to determine whether the scan at discharge matches the predicted fingerprint growth. In the long term, records and predictions could become part of vaccination programs, school enrollment and searches for missing children.[45]

In Indonesia, the latest health law no. 17 of 2023-part four paragraph 2 concerning Infant and Child Health article 41 paragraph (1) infant and child health efforts are aimed at keeping babies and children growing and developing healthily, intelligently and with quality and reduce morbidity, mortality and disability rates for infants and children. Paragraph (2) The Central Government, Regional Government, families and communities are responsible for implementing infant and child health efforts that comply with standards, are safe, of high quality and are affordable.

According to the 2018 version of the National Hospital Accreditation Standards, the target patient identification includes five elements. First, there are regulations governing the implementation of patient identification. Second, patient identification is carried out using a minimum of 2 (two) identities and cannot be used the patient's room number or the place where the patient is treated in accordance with hospital regulations. Third, identify the patient carried out before any action, diagnostic and therapeutic procedures are carried out. Fourth, identify beforehand administration of medications, blood, blood products, and specimens, and administration of diet. Fifth, identification prior to radiotherapy, administration of intravenous fluids, hemodialysis, collection of blood or other specimens for clinical examination, cardiac catheterization, diagnostic radiological procedures and identification of comatose patients.

The rules regarding infant and child health efforts are clearly stated in Article 41 to Article 49 of Law No. 17 of 2023 concerning Health, the explanations listed are specific to efforts to fulfill the rights of infants and children in their growth and development. However, there are no norms that explicitly regulate the prevention of baby switches in hospitals. Although the law does not explicitly state about switched babies and efforts to prevent it, it clearly states that health efforts must protect newborn and the government, families and society must provide health services to babies and children according to standards, safety and quality. and affordable. The implementation of this law has been followed up by the Hospital Accreditation Commission in

the form of national standards for hospital accreditation in patient identification elements as an effort to ensure patient safety as explained above.

In the future, based on the enormous demands of society and the development of digital technology, biometric identification in newborn care will become a necessity for patient safety. The Indonesian government, through the Ministry of Health, has programmed all hospitals in Indonesia to use electronic medical records by the end of 2023. This is the entry point for policy makers to create regulations regarding the use of biometric and AI technology in identifying every newborn baby in Indonesia. As in several countries around the world, biometric identification has been made into legislation in an effort to increase hospital compliance. This technology is also very useful in newborn registration, vaccination programs and school registration.

4 Conclusion

Identification of newborns is one of the main tasks of the medical team following birth. In countries like Indonesia, where public maternity wards often struggle with overcrowding and limited security, the likelihood of newborn mix-ups or abductions is unacceptably high. Currently, identification methods for newborns typically involve the use of bracelets. However, these can be easily lost or deliberately removed, prompting interest in biometric alternatives. Various biometric approaches—such as facial, iris, ear, and fingerprint recognition—have been explored, with research indicating that fingerprint recognition is the most promising option for practical use. In the future, based on the enormous demands of society and the development of digital technology, biometric identification in newborn care will become a necessity for patient safety. As in several countries around the world, biometric identification has been made into legislation in an effort to increase hospital compliance. This technology is also very useful in newborn registration, vaccination programs and school registration.

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