# IMPORTANCE OF HEALTH ECONOMICS IN PROTECTING TRANSGENDER HEALTH RIGHTS IN INDIA

Madhawi Pandey, Ph.D., National University of Study and Research in Law, Ranchi, Jharkhand

#### ABSTRACT

We all know that health economics is a broader term, and it comprises efficiency, effectiveness, and the production and consumption of healthcare facilities. It also extends to the study of the functioning of the health care system and behavior affecting health. Economics also tells us about equity and equality in terms of the allocation of resources. Therefore, the efficient allocation of health care facilities to all is the central objective for this topic. This is the particular aspect of health economics that the researcher wants to discuss regarding transgender health, because transgender individuals are the most vulnerable community in India. Transgender rights have been curtailed in different ways, and they are still struggling for their basic human rights. They suffer a lot, despite non-discriminatory policies and laws present nationally and internationally, they still face discrimination in availing proper health care. Still, health care is a neglected area for transgender individuals, and one of the basic human rights which are protected under Article 21 of the Indian Constitution. Therefore, to discuss the contribution of health economics is necessary to understand how economics can help protect health as a basic human right of transgender individuals. A study of the contribution of economics is necessary to bring futuristic change in the traditional setting of health care.

In this article, the whole topic is divided into four parts: human beings' capital, efficiency, policy formation, and equity. All this as an economic principle, how much influence does the policy formation for transgender individuals to achieve maximum benefit from limited and fragmented health care facilities? It is high time, and no one should be left behind from universal health coverage. In short, we can say that with the help of health economics, we can protect human rights and march towards an inclusive society.

**Keywords:** health economics, healthcare, transgender, human rights, accessing, non-discrimination.

## 1. INTRODUCTION:

As name indicates health economics is a branch of economics that deals with issues related to efficiency, effectiveness, values, and behavior in the production and consumption of not only the services of healthcare but it also gives information or input to legislators for making laws, and well organised use of available resources for maximizing health benefits. In India health care system is fragmented, and health is a subject matter of a concurrent list of the constitution, so the center and state can make laws and form policies according to the economic, geographical, and political conditions of the state.

Transgenders are a vulnerable community. The Supreme Court declared their gender as the third gender in the famous NALSA case in 2014. Since then, laws and policies have been made particularly for this community, but they are still fighting for their basic human rights, and health is one of them. Our constitution has provisions to protect human rights through the application of fundamental rights and through the directive principles of state policy. In addition to that, there are Article 1 of the UDHR and Article 2 of the UDHR proclaim basic human rights and dignity without any form of discrimination. The Yogyakarta principle was made for sexual minorities to protect human rights in the year 2006. Despite several laws guiding principles and policy, their struggle is not ending. If they are having problems accessing health care, then it will infringe Article 21 and Article 14 and add to the burden of diseases and lower the economic growth of a country.

As we all know, transgender is an umbrella term, the person who does not conform to their biological gender assigned at birth and whose psychological feelings of gender are different. The people more affirmative to male characters are trans-male, and those more affirmative to female are trans-female, so the group also includes cross-dressers, intersex people, and genderqueer. Transgender persons may be of any sexual orientation. According to the WHO assessment report, 41% of transgender people in India, suffered from HIV infection as compared to cisgender people. In four cities of India, 13.6% had syphilis and 45.4% had the herpes simplex virus.<sup>1</sup>.

These are the vulnerable communities for noncommunicable diseases, also because their economic condition and homelessness push them to diseased conditions. In India, non-

<sup>&</sup>lt;sup>1</sup>WHO.int news release addressing the HIV and health needs of transgender people.

communicable diseases account for 63% of all deaths.<sup>2</sup>

Transgender individuals are in the community; they suffer from physical and mental issues as well as are discriminated against socially simultaneously. Therefore, transgender health issues are multidimensional and complex when it comes to the assessment of health care. Yet there is no health-specific policy for them.

## THE SUMMARY OF NALSA VS UNION OF INDIA 2014:

Two writs were filed to protect the rights of transgender people. Writ petition no 400 of 2012, and the second was filed by Nasib Kaur ji, bearing no604 of 2013, Laxmi Narayan Tripathi was also a party in this case, the core of the petition was a gender identity issue, and whether the gender of a person is identified on as biological or psychological basis? Or they should be categorized as the third gender. The petitioner argued that transgender individuals belong to socially and economically marginalized sections of society because society's traditional norm is based on the binary concept of gender. So, their basic human rights are being curtailed in various ways in education, health, and even life and liberty, equality, and freedom of expression, under Articles 21, 14, and 19, respectively.

Whereas the respondent argued that the state had set up an expert committee to address the problems of transgender and many states followed welfare schemes to promote transgender rights.

CASE JUDGMENT: After hearing both arguments S.C decided the matter by giving the status of 'third gender' to the transgender, S.C also remarked that gender is the core issue of any human being and those who fall between the male or female category it will be decided by psychological test that means they are free to express their feeling like male or female or intersexual, The court also said that transgenders fall within the purview of the Indian constitution and thus are fully entitled to the right guaranteed therein. It made various declarations and directions to the center and state governments.

This was the first Judgement for transgender which opened the door for various welfare policies

<sup>&</sup>lt;sup>2</sup>Article on high levels of non-communicable diseases risk factors among transgenders in puducherry, south India by madhavan manju, reddy m. mahendra, chinnakali palanivel, kar s. sitanshu, lakshminarayanan subitha.

and the making of an Act to protect transgender rights.

#### **OBJECTIVE OF THE STUDY:**

- The main objective of the study is to determine whether healthcare facilities are easily available to them or not.
- Our health care system is efficient in providing health care to transgender individuals or not.
- To know the contribution of the principle of health economics towards health care.
- To shed light on the healthcare condition of the transgender community.
- To know the barriers in transgender health care.

# 1.1 Human being as capital:

The model of Grossman (1972) suggested that if human beings are considered as durable health capital, then healthy time would be an input to the growing economy. This model gives a dynamic system, which means optimization of utility by gross investment in health. Now we should understand that investment in health is directly proportional to utility, where utility means consumer goods or healthy time, which is utilized in production in the market or domestic setup. If we apply the same theory to transgender health outcomes, it gives us a more complex structure.

We all know that transgenders belong to a marginalized section of the society. Their source of income is not fixed; therefore, they cannot afford costly medical care provided by public or private hospitals. They greatly depend upon state affirmative actions, for example, the Ayushman TG PLUS card will provide 5 lac rs to transgenders for their health care including gender-affirming surgery, but not all transgenders require SRS, hence there is the missing link between investment in health by transgender and optimizing utility. So efficient policy should be made to tackle the health-related problems of transgenders. In this policy-making process, cost-benefit analysis is very crucial because optimization of utility cannot be possible without accessing proper healthcare facilities.

If we consider health as an industry, then healthcare providers are producing good health by treating patients, and transgenders will become consumers of healthcare. The irony is that health care settings are not welcoming to transgender individuals. Health care is itself a form of huge industry; globally, health-related goods and services constitute 10% of the world's economic product.<sup>3</sup>

The report of the Commission on Macroeconomics and Health in the year 2001, observed that a 10% improvement in life expectancy at birth is linked to an annual increase in economic growth of 0.3 to 0.4%. <sup>4</sup>

They are stigmatized and feel discriminated against, despite S.C guidelines for treating them as third gender still, there is no specific setup to treat transgenders, traditional hospital setup is based on the binary concept of gender. Societal pressure makes them feel alienated from health care. Their struggle became threefold: struggling for their own gender identity, in their home, and in society, especially for accessing health care facilities.

## **GOVERNMENT INVESTMENT:**

- In the Union Budget 2021-22 Government of India allocated 2,23,846 crore for health and wellness, which is slightly up from the previous budget of 2020-21.<sup>5</sup> India's public health expenditure in terms of GDP increased from 1.2% to 1.8%, which is still lower in comparison to Western countries.
- Out-of-pocket expenditure, which is expenditure in health care directly from selfearnings, is still higher, approximately. 60%. Great concern for transgender individuals also socially and economically backward and dependent on state intervention programs for health care.
- Now India is facing a double burden of disease, that is communicable and noncommunicable diseases. Therefore, health concerns are obvious for the transgender
  community, they are the most vulnerable community to have communicable,
  noncommunicable, and mental diseases.

<sup>&</sup>lt;sup>3</sup>Health and the economy by Frenk Julio ,Havard international review vol.35.no.4.

⁴ibid

<sup>&</sup>lt;sup>5</sup>Investment opportunities in India 's health care sector, NITI Ayog, March 2021.

To understand the health care system, little knowledge about how it links to other disciplines is important. It is an interdisciplinary field that brings together diverse disciplines. It includes economics, sociology, political science, public health, epidemiology, and different government health policies. How does this cumulative effect provide health to all? Therefore, the health care system can be studied in three headings: inclusive health care, which means whether transgender individuals are availing health care or not, the second is social security for health care, and the infrastructure available to cater to the vast need for health care.

The nation's economy greatly affects the healthcare system because infrastructure can be made according to the budget allocation for health. Same way, policies can be made according to cost-benefit analysis, and finally, resources have been utilized, or not, greatly dependent upon society's perception of gender in the case of transgender individuals. There are several barriers for transgender individuals to access proper health care. Like gender identity cards, without ID proof, they can not avail themselves of health care facilities. Same way, if they are being discriminated against, they cannot access health care due to fear, stigma, and feeling alienated.

Society's law and people's perception towards gender are not liberal, so their struggle became endless when it comes to accessing health care.

To understand the performance of health care, it can be divided into three parts. Although laws and policies say something about the inclusion of transgender individuals in the health care system, in practice, there is a huge gap in implementation. Due to low education, they are not aware of the laws and policies that protect their rights. Traditional healthcare systems are still following the binary concept of gender. There are no separate toilets or wards in hospitals despite the Supreme Court guidelines to treat them as a third gender. The use of less technology is another barrier for them. According to recent research transgenders' education rate is 46% as compared to 74% education rate in the general population.<sup>6</sup> It affects their health status drastically.

Similarly, the unemployment rate among transgender individuals directly affects access to health care, out-of-pocket expenditure, and finally, is trapped in a vicious circle of poverty.

<sup>&</sup>lt;sup>6</sup>Article by Das pallav on higher education of transgender in India; opportunities and challenges.

Therefore, social security in the form of insurance like AYUSHMAN BHARAT has been protecting their health rights.

## 1.2 EFFICIENCY:

Efficiency means the ratio of the output to the inputs of any system. Efficient health care means a higher level of performance in terms of health care delivery, relative to the inputs consumed. Here, inputs mean resources, time, and money. In the case of the health care system, the output can be evaluated through health services like affordability, availability, and inclusiveness in particular settings. Second is health outcomes, like prevention, resilience, and satisfaction with the services.

Efficiency measures whether resources related to healthcare are being used to get the best value for money.<sup>7</sup> We know that health outcomes are complex to measure because they cannot be measured directly in terms of cost and benefit; there are intermediate interventions in the form of health care. Therefore, the collection of data on how many patients benefit from a particular program or treatment is one of the major tasks to perform. After that, it will be analyzed in terms of value for money.

Transgender individuals are a heterogeneous group, and it will be more difficult to measure the benefits they are getting through the health care system. One of the basic reasons is fear of stigma that hinders them to get proper health care. Society is not welcoming to them. It affects their overall health condition. They are not educated enough to know their rights and fight to protect their rights. Their health condition, like depression, anxiety, and suicidal tendencies, act as a barrier to accessing health care. The Indian government has made a policy of 'SMILE' for their overall wellness. Although it has been implemented in several states under different names still all the program is still in a nascent stage. So, it will be difficult to know the true beneficiary of the existing healthcare system.

This complex situation can be resolved through health economics because it gives ample scope to evaluate the effectiveness of any health policy. Not only evaluation but making health policy through economics is always a good idea to solve the problem of equal distribution of resources while having scarce resources, and to provide equal opportunity to everyone in the health care

<sup>&</sup>lt;sup>7</sup>Williams A. priority settings in public and private health care, A guide through the ideological jungle. Journal of health economics.

system. Therefore, we can say that making and evaluating policy is largely dependent upon economics, and the intervention of economics in health care settings will widen the scope of health economics, and it will become one of the tools to protect basic human rights, like health rights.

Society is changing, so is the health care system. Traditional settings have been changed to more technically driven systems, and it cannot be evaluated without the help of health economics. We cannot measure effectiveness without the help of economics. In the case of Indian transgender, they are not getting equal benefits because states have their plan for them some states like Kerala and Tamil Nadu are liberal and have lots of policies for transgenders but according to a survey by the Department of social justice govt. In Kerala in the year 2014-15, 52 % felt a need to change their gender, but only 9% could do so; 32% attempted suicide once in their lifetime. There is also a provision to take legal action against doctors who practice conversion therapy.

However, government hospitals lack gender-affirming health care. But private clinics have these facilities, and up to 2 lakh Rs can be transferred to private hospitals for gender-affirming surgery.

Different studies show that the infrastructure of Indian health care is not up to the mark, and it is more costly for a vulnerable class of people. All the states have not equally adopted the policy of the center. Even the S.C. guidelines have not been properly implemented to uplift the economically and socially backward classes, like transgender individuals. Legal recognition of transgender individuals as a third gender has so many lacunas that they cannot take advantage of other programs made for their welfare. For example, without having a proper ID card, they cannot avail health care services. Even if they manage to get proper ID cards then also they are been denied to provide health care because doctors are not well-trained to take care of gender-sensitive patients. Different hormonal sessions and proper counseling of their problem are a very necessary step that cannot be ignored.

To better understand the out-of-pocket expenditure and healthcare provided by private or public health systems, it is important to understand the status of healthcare services provided by the

<sup>&</sup>lt;sup>8</sup>Article by Sukumar Suja, Ullatil Vivek, and Asokan Arjun. On Transgender health care in Kerala.

state, Kerala. Because other states in India are far behind Kerala.

In Kerala, health expenditure as a percentage of total expenditure declined from 6.4 in the year 1993-94 to 5.5 in 2002-2003. The growth of the private sector suppressed public care during that period. According to National Sample Survey data, in 2004- 2005, public expenditure on health in Kerala was 0.9% of the GDP, against 8.2% private spending, while compared to India as a whole, it was 0.9% and 3.6% of GDP, respectively.<sup>9</sup>

Therefore, to make the health system more resilient, people-centric, and inclusive, it is important to review decentralized, fragmented finance and implementation of policy in healthcare settings.

So, the connecting link between health economics and health outcomes is meticulously crafted, with the help of economics, to protect transgender rights, because it is the policy's or effective implementation of law that can change the traditional settings of the health system.

Evidence shows that more investment in health care leads to better economic conditions for a nation. With the help of health economics, a better health policy can be made for the overall development of the nation. Yet there is no exclusive policy on the health of transgender individuals. Similarly, hospitals are established on a binary concept, even though the ruling of the S.C. did not end the suffering of transgender individuals.

Perhaps health economics helps them to consider themselves a capital in itself. That will help them in getting equal opportunity for treatment in any hospital. Efficiency-wise, a wise health care system needs a different approach as far as transgender individuals are concerned.

As a consumer of health care, it has to be measured how many transgenders are getting health care facilities without any discrimination, because including them in the health care system is a very necessary step towards universal health care, and not only that, it is more than that because it is related to their right to life. No one wants to live without health, and it is the primary condition of a dignified life. The true value of money that is being invested in health care should become an output of health. We know that transgender individuals not only suffer from physical and mental conditions, but their socioeconomic condition is also not well. In that

<sup>&</sup>lt;sup>9</sup>An article by Thresia U.C on rising private sector and falling good health at low cost": health challenges in China, Sri Lanka, and Indian state of Kerala.

context, if they are investing money from their social security, then it would be more challenging to determine whether they are getting equal benefits from the investment or not. That is the reason health economics contributes to the formation of policy; effective implementation of this policy to enhance efficacy is a must in any healthcare setting. Above all, it is a means to protect human rights like health.

## **1.3 POLICY FORMATION:**

Policy formation is the main step towards an inclusive society, and to achieve universal healthcare without including transgender there will be no universal health coverage in the true sense. So, with the help of health economics policy should be formed to tackle the healthcare needs of transgender individuals. Nowadays, it has become of prime importance to form a policy according to budget allocation, to maximize health benefits from low-cost, peoplecentric, to make a resilient policy, and to change traditional settings in health care like gender neutral health care services.

A health economist can better understand to put a value on health, what are the health determinates besides healthcare that influences health, the link between supply and demand for health care, the behavior of producers and consumers in the health care system, some other alternative way to provide health care to transgender, Use of technology to provide better health care in remote areas. Therefore, we can say it is very crucial to apply health economics in the healthcare system to protect and promote health for all.

Gender-sensitive policy formation is the first step in the direction of gender equality. There are several challenges in the formulation of gender-sensitive policy.

- Lack of gender sensitization among policymakers.
- Lack of expertise in the case of transgender.
- Larger emphasis on short-term benefits.
- Lack of political and regional support.
- Noninvolvement of NGOs.

# • Inadequate budget allocation.

The huge amount of health finance comes from domestic sources. According to the latest RBI data on net household savings were 5.1% in 2022-23 from 7.2% the previous year. It is the cause of worry. We also know that out-of-pocket expenditure in India is still high, which is 47.1%. This should be redressed as soon as possible, but the positive sign in the country's healthcare is an increase in social security expenditure on healthcare. If the social security has been increased, it has a direct impact on reducing out-of-pocket expenditure. The social security expenditure has increased from 5.7% in 2014-15 to 9.3% in 2019-20.10 It is one of the important stages towards universal coverage of healthcare.

In a survey conducted among Dalits of south Indian states, 24% said they were denied treatment, 16% said the doctors were not well trained to treat them, and 4% experienced physical and sexual assault from their health care professional.<sup>11</sup> India does not effectively implement the policy that prohibits discrimination; unless and until the policy is implemented properly, society cannot accept it as a third gender.

They often have complex medical needs. 62% of transgender people suffer from depression, 41% have attempted suicide once in their lifetime, 30% of transgender people smoke daily, and 26% suffer from drug and alcohol consumption. The prevalence of HIV among transgender females is 3.4% as compared to 0.22% in the general population.

Prior research reveals that a near absence of gender transition services in public hospitals.<sup>12</sup> Facilities are completely lacking in remote areas. It indicates that healthcare services are not accessible to transgender individuals.

All these data indicate that even in the presence of laws, guidelines, and an international legal framework, the ground reality is different, especially in the healthcare system. There is a lack of data on transgender identity and healthcare disparities in the healthcare system for making gender-sensitive health policy. Analysis of available data on transgender health is very important. The second point is that India is still a developing country, so the investment in the

<sup>&</sup>lt;sup>10</sup>Pib. gov.in, ministry of health and family welfare.

<sup>&</sup>lt;sup>11</sup>India's health care systems persistently exclude LGBTQ+ people. This needs to change by Nikarthil s. Deepak and Kejriwal Sahil.

<sup>&</sup>lt;sup>12</sup>Chakrapani et al. 2018.

healthcare system is dependent upon budget allocation. So, investment in complex junctures like health economics would pave the path for the development of the nation.

The third point is inclusive healthcare system is a global need; above all, it will deeply impact the health of transgender individuals. They have the same rights as other cisgender people. So, economics, individual, and health are interrelated terms; we cannot separate them because today's yardstick of development is not only the economic condition of a country, but it will be gauged by the healthy and productive lifestyle of individuals of a nation, productivity in terms of contribution to the nation's GDP.

In the case of India, the incremental policy will be helpful because it will be cost-effective, and the policy can be analyzed through small interventions through policy in the society. In public policy, incremental method of policy formation will be beneficial to bring change in a society. In this method small policy changes are enacted over time to implement large policy. For example, civil rights, racial equality, women's voting rights, and gay rights, all this change has a history of a gradual shift towards a more gender-inclusive society, especially in the healthcare system.

## **1.4 EQUITY:**

Equity in this context means the state must provide equal opportunity to attain the highest level of health by any individual. Health and health equity are determined by the conditions in which people are born and spend the rest of their lives in that particular condition. So, we can imagine that transgender life, they constantly face denied equity in terms of health. This is the community whose struggle never ends, because of the discriminatory practices of the society. They are underprivileged not only in the health sector but their political representation is less, which means they are not involved in decision making, and it is one of the important aspects of policy formation.

Only 37% of the total Indian population is covered by health insurance. <sup>13</sup> According to the Niti Ayog report of June 2021 it covers only 50% of the population. Around 20% people are covered under private health insurance. Whereas the rest 30% of the population lack any social security.

<sup>&</sup>lt;sup>13</sup>International health care system profiles. India;2020 june available in google scholar.

About one-third of the total health expenditure, 30%, comes from the public sector. <sup>14</sup> This implies that the individual consumer bears the cost of their healthcare.

At present, the Department of Health Research under the Ministry of Health and Family Welfare will soon establish an MTAB, that is Medical Technology Assessment Board, which will be the central agency for undertaking health technology assessment in India. It will act as a central agency for undertaking health technology assessment activities in India. The systematic process for making policy, regarding health resources allocation, cost-effectiveness study, budget allocation, and the feasibility of the policy will come under HTA, which is health technology assessment. HTA is considered as the gold standard for using health economic principles.

Therefore, it is important to know that the Indian health system is one of the most complex health systems in the world, with a heterogeneous population putting pressure on it. So, in the case of transgender equity is largely dependent upon society's perception of gender. They can only access healthcare if healthcare providers are well-trained and state welfare action is effectively implemented in society.

In the above discussion, we understand that health economics, technology, and individuals are integral parts of any healthcare system. There are a lot of challenges and complexities involved in the Indian healthcare system, but the progress will pave the way for a more resilient, integrated, and inclusive healthcare system.

#### **SUGGESTIONS:**

- 1. Effective implementation of policies and guidelines is necessary to include transgender individuals in the binary system of health care.
- 2. Gender-neutral healthcare centers should be promoted.
- 3. Social security for transgender individuals must be revised.

<sup>&</sup>lt;sup>14</sup>Implementation of equity and access in Indian health care; current senario and way forward by Ghia Canna and Rambhad Gautam.

<sup>&</sup>lt;sup>15</sup>Press information bureau government of India. Medical Technology Assessment Board. Minstry of health and family welfare. 2017.

- 4. An efficient policy should be made with the help of health economics principles.
- 5. Anti-discrimination laws should be implemented strictly.

## **CONCLUSION:**

Today, the healthcare system has taken the shape of a huge industry. All the needed changes in traditional settings have been catered to by health economics. As far as transgender health is concerned and their basic human right, it is still in a nascent stage, and the government has launched the first policy for transgender-like SMILE, which is an umbrella policy. To study health economics in the context of transgenders, we need to understand that problem of accessing health care by transgender is not only their problem but it is the problem of humanity. Without protecting their basic human rights, there will be no universal coverage of health rights. Therefore, the contribution of health economics in making more resilient, peoplecentered, and promoting gender diversity cannot be ignored, but its area is increasing day by day. Now it can be an effective way to protect basic human rights like transgender health rights.

## **REFERENCES:**

- Health economics at the crossroads of centuries from the past to the future- by Mihajlo Jakovljevic and Seiritsu Ogura.
- 2. Frontiers in public health, https://www.frontiersin.org.
- 3. Health economics; https://www.researchgate.net
- 4. Balancing equity and efficiency in the allocation of health, www.ncbi.nlm.gov
- 5. Efficiency, equity, and equality in health and health care, https://www.researchgate.net
- 6. Equity, health, and health care, https://link.springer.com
- 7. WHO international release addressing the HIV and health needs of transgender people.
- 8. High level of communicable disease risk factors among transgender individuals in Puducherry, South India by Manju Madhvan, M. Mahendra Reddy, Palnival Chinnakali, Sitanshu S. Kar, Subitha Laxminarayanan.
- 9. Health and Economics by Julio Frank.
- 10. Investment opportunities in India's health care sector, Niti Aayog
- 11. Higher education of transgender in India, opportunities and challenges Pallav Das.
- 12. Priority settings in public and private health care: a guide through the ideological jungle Journal of Health Economics. Williams
- 13. Transgender health care in Kerala Suja sukumar, Vivek Ullatil, Arjun Asokan
- 14. Rising private sector and falling good health at low cost, health challenges in China, Sri Lanka, and Kerala. -Thresia U.C
- 15. pib.gov.in, Ministry of Health and Family Welfare.
- 16. Indian health care system persistently excludes LGBTQ+ people; this needs to change,

- by Deepak S. Nikarthi and Sahil Kejriwal
- 17. International Health Care System Profiles India 2020.
- 18. Press Information Bureau, govt. Of the India medical technology assessment board, Ministry of Health and Family Welfare, 2017.
- 19. Implementation of equity and access in Indian health care, current scenario and way forward by Canna Gand Gautam Rambhad.
- 20. Towards the next generation of public health research in India, a call for a health equity lens- K.S. Mohindra, Subrata Mukherjee, Samshad Khan, and C.U. Thresia.