SAVE A LIFE-DONATE UNUSED MEDICINES

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Abstract — Across the globe, people struggle to afford money for medical treatment while lots of money go waste in drugs used for the treatment .For one third of all persons worldwide, access to essential medicines is problematic. Especially in least-developed countries, the majority of the population cannot afford money for drugs, vaccines and diagnosis of the disease and this is now increasingly in middle- income countries too. No detailed data is known on what happens to these unused drugs, but evidence collected in a casual or informal manner suggests some are thrown in the trash or incinerated. The unused medications are flushed down the toilet as has been reported by some of the medical facilities. It is costly and harmful for the environment to destroy the unused medicine.The destruction of unused medicine is wasteful too. The unused medications are donated to help our community and benefit our organizations. We believe that leftover medicines should be donated and not dumped in a dustbin.

Key-words: Unused medication, expired medication, medication disposal, medication cost

1. INTRODUCTION

Today both in developed and developing countries, healthcare systems are facing serious challenges due to economic factors or poor planning or poor implementation of the health facilities.Therefore, as time is passing we will see a dramatic change in health problems.The highest burden of disease in the poorest developing countries such as communicable diseases (CDs), non-communicable diseases (NCDs), and other new diseases that are emerging make changes in the social and physical environment, and also have behavioral and social illness.For maintaining human health, pharmaceutical products are essential but many pharmaceuticals contain hazardous chemicals and if not properly used can contaminate the environment. The pharmaceutical waste can lead to contamination and a wide range of toxicities in man and animals when they are improperly disposed of . Most of the people frequently store unused medicines in their homes and may also discard them through general municipal waste bins, sinks, or flush them down their toilets.[2]Due to wrong disposal of expired medicines many adults and children suffer from poisoning and health problems. The presence of expired medicines in

the sewage can lead to increased antibiotic resistance.The practice of disposing of the unused and expired medicines into sewage systems, garbage, dumps or accumulating in community pharmacies are increasing drastically.

2. METHODS

A broad literature search was performed. Many appropriate articles were identified by searching for various apps such as GiveMed app,non-governmental organization websites and private foundation websites, such as World Health Organization (WHO), World Intellectual Property Organization (WIPO), World Trade Organization (WTO),websites of relevant organizations such as medicine baba,uday foundation and sirum.

3. RELATED WORK

A. GiveMedApp:

GIVMED App helps you donate your extra medicine easily, quickly and reliably, without even stepping out of your door.[3]
Through the app you can:

a. Register all your medicine, either by scanning or by typing the unique vertical code which can be found on the medicine box of each medicine.

b. Decide which of the medicine you registered, you want to donate straight away, or a while before they go off.

c. See the medicine shortages in the welfare organizations that we cooperate with.

d. In case there is a need for the medicine you own, you will be given the option to either deliver them by yourselves or request our welfare organizations to contact you in order to jointly coordinate the donation process.

B. Uday Foundation:

This site has made with same notion of donating to the needy people but it not only donates medicine but food and blankets to the underprivileged people.[6]

C. Medicine Baba:

Omkar Nath Ji who was also called by the name

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"Medicine Baba" or "Medicine Monk" was born in India around 1940. He is a retired blood bank technician from a hospital in New Delhi.He used to voluntarily collects unused medicines from people living in the area nearby and distributes them to the poor free of cost.[5]

D. Sirum:

SIRUM is a website designed for needy people that directly accepts medicine from various people such as manufacturers, pharmacies, wholesalers, and health facilities.This website allows an individual to donate unused medicines through one of their partners.[4]

4. SURVEY OF DISPOSAL PRACTICES

A. Demographic data

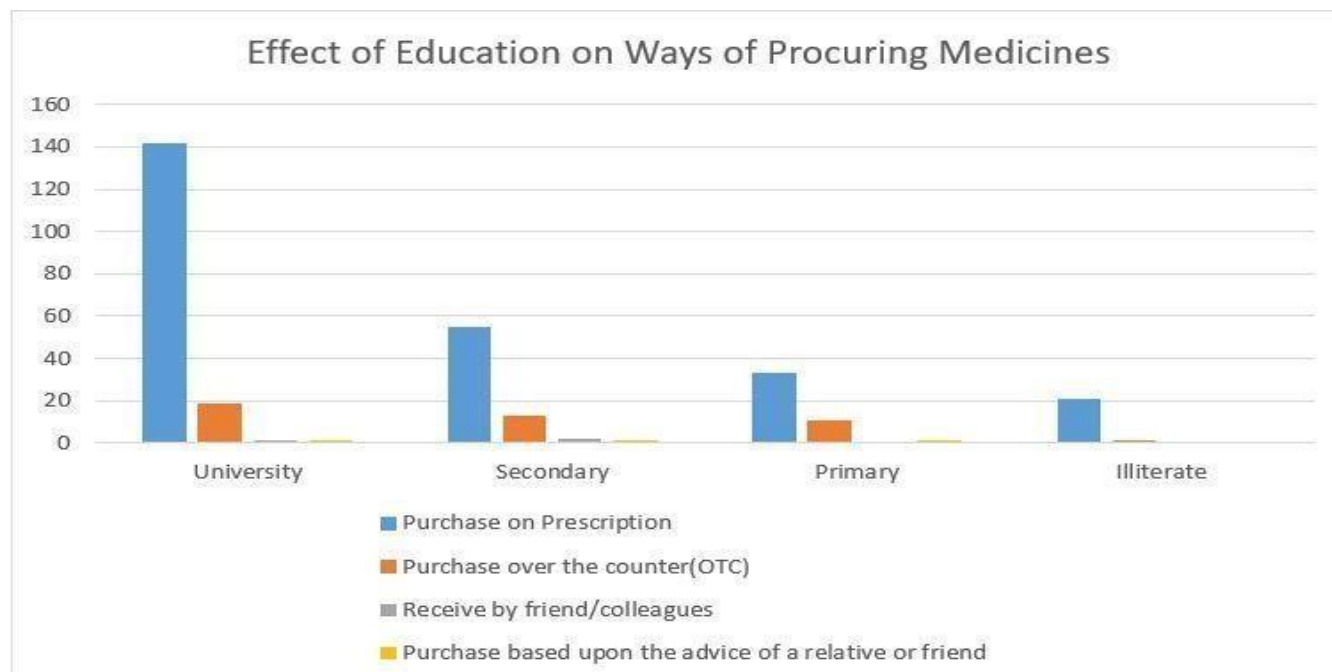The statistical data about the population which include gender,age,marital status,level of education,waysof procuring medicines and classes of medicines used shows number of responses on effect of procuring the medicines.On a survey done(illustrated in Table 1) it was seen that all the approached individuals agreed to participate.Out of the total individual approached 221 were men and 80 were women.The individual having age between 32 and above were maximum and mostly university students approached..[1]

B. Knowledge about procuringmedicines

It was seen that mostly people purchase medicines prescribed by the doctor.with total of 301 respondent 251 individual were purchasing the medicines as prescribed by the doctor,44 individuals were their who purchase medicines over the counter, 3 were their who received the medicines from friend or relative and 3 were their who purchase medicines upon the advice of a relative or friend.It was also seen that people usually purchaseantibiotics.[7]

Table 1: Demographic data about procuring medicines

S.No	Variables and constants	Number of responses	
		TOTAL in Numbers	PERCENTAGE
1.	Gender		
	a) Men	221	73.4%
	b) Women	80	26.6%
2.	Age		
	a) 18-24	103	32.4%
	b) 25-31	94	31.2%
	c) 32-above	104	34.6%
3.	Marital Status		
	a) Single	160	53.2%
	b) Married	141	46.8%
4.	Level of Education		
	a) Illiterate	22	7.3%
	b) Primary	45	15%
	c) Secondary	71	23.6%
	d) University	163	54.2%
5.	Ways of Procuring Medicines		
	a) Purchased on prescription	251	83.4%
	b) Purchased over the counter	44	14.6%
	c) Received from friend and colleagues	3	1%
	d) Purchased based upon the advice of a relative or a friend	3	1%
6.	Classes of Medicine Used		
	a) NSAIDs	61	20.3%
	b) Antibiotic	140	46.5%
	c) Anti-hypertensive	42	14%
	d) Anti-diabetic	23	7.6%
	e) other	35	11.6%

Figure 1: Ways of procuring medicines

Level of Education	Do u check Expiry date of Medicines before procuring		
	YES	NO	DON'T KNOW
Illiterate	19	1	2
Primary	43	2	0
Secondary	71	0	0
University	159	2	2
Total	292	5	4

Table 2: Before procuring,respondent-view of checking the expiry date

Level of Education	Yes	Don't Know	Total
Illiterate	22	0	22
Primary	44	1	45
Secondary	70	1	71
University	159	4	163
Total	295	6	301

Table 3: Effects of improper disposal of unused and expired medicines on environment and health with effects of education

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This survey is a quantitative method which consists of predefined questions that provide qualitative and quantitative information.The measure of public practices and attitudes towards the unused medications are shown with the responses of the items.Majority of the individuals responded "Yes" for the question asked did any quantity of purchase medicine remains unused at homes.Through this survey it was cleared that mostly people keep the medicines at their home until those medicines got expired.People usually throw the expired medicines in the garbage.Hence,survey cleared that government should take some initiatives to create awareness for proper disposal of the unused and expired medicines and therefore, improper disposal of the unused and expired medicines will have an adverse effect on the environment and health of the living beings. [7]

Questions		N	%
Did any quantity of purchase medicine remain unused at your home?	YES	287	95.3
	NO	14	4.7
What do you do with the unused medicines?	Throw away in household garbage	43	14.3
	Donate to hospital	29	9.6
	Give to friends or relatives	4	1.3
	Return to Medical stores	64	21.3
	Keep at home until expired	157	52.2
	Flush unused medications in toilet or sink	4	1.3
What do u do with expired medicines?	Throw away in household garbage	234	77.7
	Flush Expired medications in sink or toilet	36	12
	Give to Friends or relatives	4	1.3
	Return to medical store	22	7.3
	Don't know	5	1.7
Who is responsible to create awareness for proper disposal of unused and expired medicines	Government	183	60.8
	Pharmaceutical Industries	36	12
	Public	17	5.6
	Pharmacist	65	21.6
Improper disposal of unused and expired medicines can affect environment and health	Yes	295	98
	Don't Know	6	2

Table 4: Public Practices and attitude towards the unused and expired medicines

5.   PROPOSED METHODOLOGY

The system consists of three actors: Donor, NGO and admin.

A.   ADMIN:

The admin will login into the system. The admin will manage the list of all the NGOs associated. All the donation requests from the donors will first be verified by the admin. After that it will be sent to the NGO. The admin can block the donors on request from the NGOs.

B.   NGO:

The NGOs can register into the system. The NGO can login to see the list of available donors and the medicines and if NGO found the medicines necessary they can send an accept request to the donor.

C.   DONOR:

The donor can register into the system. After login donor can file a request for donation. The user will have to fill the donation form which will consist of all personal and medicine details. The user will also have a section where he can view the list of NGOs that have accepted the request. Donors can also check their previous data of medicine transactions.
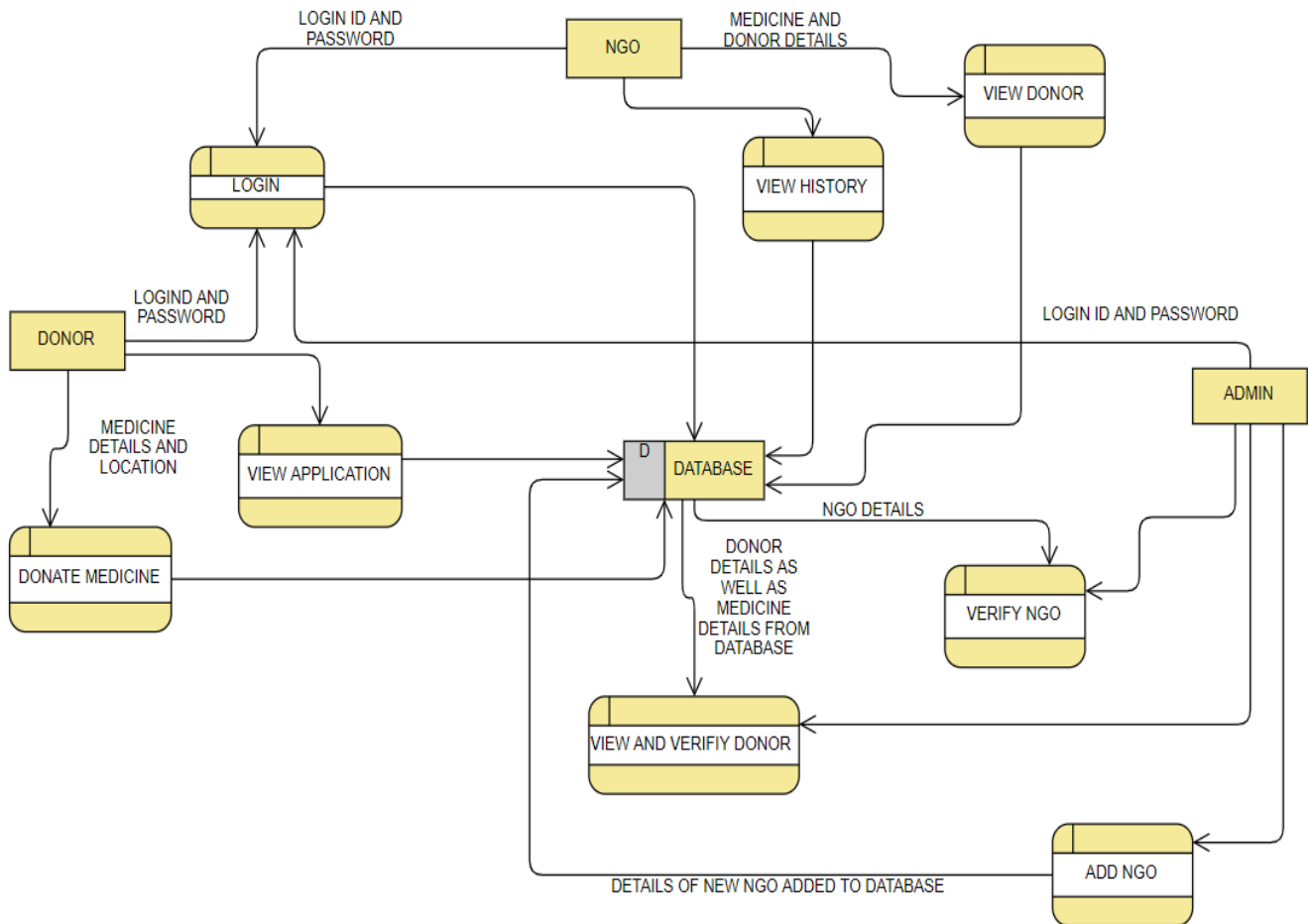

Figure 2: This figure shows the flow of the system

6.   **FEATURES:**

    A.   It helps poor people for medication.
    B.   Many needy people will get cured.
    C.   It is easy to use and access.
    D.   It is user friendly.
    E.   It is reliable and coordinative.
    F.   It is easy to handle.

CONCLUSION

There are many medical supplies that remain unused and go to the trash while many people in need are deprived of those supplies. This project focuses on reduces and possibly eradicating this problem of lack of availability of medicines to people in need. This project introduces a website using which you can donate the medicines which are not useful to the owner anymore.

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