



ETHICAL IMPLICATION OF EHEALTH HEALTHCARE DECISION MAKING IN PUBLIC HEALTH CARE SECTOR

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1. Introduction-

The healthcare as a science has been developed in last few era and providing service to all age group and gender for age group and gender for different type of diseases. The streams of healthcare include gynec, paediatric, medicine, surgery, orthopedic, mental health, ENT, dental, neurology, plastic surgery etc. The consutants practising ehealth belonging to specific streams of above medical science has some ethical dilemmas and constraints while delivering the services. The usage of technology though facilitated the healthcare practice in oteher way it has created a moral issue which is questioning the conscience of the medical practitioner. There are many concern while using ehealth practice such as privacy of patients, privacy of data, proper transmission of data related to health of a patient, collection of data within a time frame without breakdown of flow, accuracy of advice or diagnosis given to a patient. Whether using ehealth or usage of technology is right or wrong is discussed in this article taking the public health ethical principles in to consideration.

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2. Objective of article-

To find out the relationship between public health ethical principles influencing ehealth decision making of consultants and assessment of behavior and attitude of consultant for ehealth practice. The author used one way Anova method to find out the significance of moral obligation, resoning and burden for ehealth ethical decision making and factors ehealth planned behavior like attitude towards behavior, behavioral intention, intention and perceived behavioral control and subjective norm.

3. Literature Review

What is ethics in healthcare practice? Answer to this question is adopting standard practice

which is morally accepted behavior. The term ethics derived from Greek word ethos, which has meaning custom, moral charcter. Theoretically it relates to general attitude, norms and opinion that binds a person to show specific kind of behavior which is morally correct. And also this becomes basis of our scientific decision and further course of action in relation to events of somebody's life. (Fobelova, 2005, P, 12/Michaela Harabisova: Medical ethics in dimensions,P,52).Medical ethics is based on professional ethics of hipporatic oath and it's elaboration in a general healthcare environment.(Kure 2010,P.7/Michaela Hara bisova: Medical ethics in dimension,P.52). There are 2 approaches adopted in medical



ethics in public health sector.1. The utilitarian approach 2. The deontological approach.

3.1. The utilitarian approach is useful as it gives empirical solution to ethical problems. One can assess the potential benefits and harms. The positive and negative side can be weighed and balanced judgment achieved by one's decision making. The action is justified when the amount of benefit is more in a case in comparison to potential harm. In other words, if the potential harm is more, than the action is unjustified. The problem statement is 1.who is decision maker2. The proportion of benefit to harm3. The measurement of positive and negative outcome. A case of utilitarian approach is keeping the premature babies in intensive care .The follow up gives an evidence that though they get immediately benefitted in long run they develop another kind of morbidity. In such cases ethical problems are very complex and complicated in nature. So when the decision for any kind of treatment is done, the consent of patient is to be taken first.

3.2. The other half of ethical dilemmas is governed by deontological approach and determined the data. They are not supposed quantify or measure. The ethical consideration value the one is performing the duty, a person who gets benefit out of his duty, how best medical practitioner discharges his duty. The responsible person who is in duty, it's his ability how effectively he is discharging the duty. The duty is based on a protocol which is independent of outcome. For example, a nurse is treating a labour patient in labour room has duty in labour room cannot be made responsible for a death in

medicine ward when the medicine ward i/c nurse is absent or leave of a particular hospital. But it's a moral obligation of the former nurse to attend the case if she has given a call to attend the patient.

3.3. Peter Schordar Back, Peter Dunchan, William Sherlaw, Caroline Brall and Katarzyna Czabanowska has elaborated in their article "Teaching seven principles for public health ethics: towards a curriculum for a shortcourse on ethics in public health programme". The seven principles are elaborated as below:

3.3.1. Non maleficence- The principle of non maleficence (do no harm) this principle implies that a medical practitioner does no harm even if a patient requests this. This is the principle came in to practice from Hippocratic "Primum nil nocere" which states that do no harm. In public health policy, there are some governance related decisions taken where a individual may not get benefitted but in larger sense or a larger domain is benefitted. Banning smoking in public place is such type of decision. Though an individual's habit is hampered but a lot of public is gets benefitted out of this law.

3.3.2. Beneficence- It is the second principle which implies to give benefit to patients which is connected to Hippocratic non-maleficence. In other words, physicians should heal and cure the patient within their knowledge level and judgmental capacity. The difference between the non-maleficence and beneficence is that the former one say omission of harmful



action and the later implies for positive healthcare benefit. The ehealth technology and ehealth care practice also give positive health benefit to patients. The mental depression patient, rheumatoid patients and osteoarthritis patients are getting treated using ehealth technology. The patients are getting e-diagnosis facility because of this technology.

3.3.3. Health Maximization- Where the non-maleficence and beneficence are used in individual professional-client relationship encounter, the health maximization principles applies to the population health which is to be maximized. In the field of public health, the health benefits are uniformly distributed amongst the populous and the outcomes are measured as key performance indicator. The health maximization principle is also applied in ehealth domain where the public health professional thinking to apply ehealth to use for a larger scale that implies to "Social beneficence". The ehealth can maximize the health benefit of greater populous and provide equity to the poor in large scale. The ehealth makes the health benefit accessible to poor in large scale through e-learning in return maximizes health benefit.

3.3.4. Efficiency- All public health system world wide lack resources. The situation compels the public health system to work efficiently even if in scarce resources. This principle enforces public health professionals to produce more health benefit to greater no of

people in a limited resource. The use of evidence based practice and performance assessment of staff and cost-benefit analysis clarifies what is the decision to be taken for a patient. While the professionals adopting health maximizing principle, simultaneously implementing efficiency principles, simultaneously implementing efficiency principle while considering cost and benefit is a complex decision. Considering cost, benefit components while discharging the duties efficiently in public health sector. Economically, in developing countries low input yields low health benefit which is a low efficiency in low cost-benefit model. The efficiency should not be confused with effectiveness because latter promotes health maximization. The ehealth technology makes the healthcare system benefit accessible to greater populous and diagnosis becomes faster. So the healthcare system has become more efficient after adopting ehealth technology.

3.3.5. Respect for autonomy- This principle provides fundamental right to every person that he or she should be treated as an individual not as a public. The individuality of a person should be respected. As per this principle, every person has a high value for his own decision regarding his own health who should not be treated by the same method as the mass is getting treated though he or she is part of the mass. Contradictory to this principle, public health professionals use



health maximization principle to treat greater population for a common symptom or disease in a specific period i.e epidemic. The probable cause behind an epidemic is one and the whole mass is treated on some common symptoms, for example, diarrhea. The symptomatic treatment for this disease though same as it is an epidemic, may be spread because of water, food poisoning or any other infection caused by any bacteria. But treating a person as an individual after knowing the root cause becomes important as the treatment pattern, duration and follow up may vary due to different root cause. The health technology plays a vital role in diagnosing the root cause of disease through which it helps improving efficiency of healthcare system and respect the individuality and autonomy of a patients.

3.3.6. Justice- This principles refers to social justice .All the human beings are equal and equal right to access the health benefit in healthcare system irrespective of their gender, caste and socio – economic strata. It also refers the health equity. The poorest person getting the same benefit as the richest person gets in a particular healthcare system. Health equity proves all human beings are equal and to get health benefit is their fundamental right and that is social justice. A person who is not getting health benefit due to his social status may be referred to as unjust. So as per this principle, public health professionals are bound to give justice to every

citizen those who are coming to public health care system for getting health benefit. The evolution of ehealth technology facilitated health equity as making health benefit easily available to them in their accessible place in low cost, so promoting social justice. The professional also get expert advice from other professional and do justice to their patients.

3.3.7. Proportionality- The seventh and final principle proportionality is a normative method which demands individual freedom to be considered at a equal stake in comparison to wider social goods. According to Childreess et al. proportionality is a balancing method between policy adopted for social betterment against breach of autonomy or privacy. The positive outcome and negative consequences must be balanced. Allocating resources for a particular disease for individual betterment and for a pandemic disease should be balanced. The public health professionals should use proportionality method while treating a greater population and individual autonomy should be maintained during the treatment procedure. The ehealth technology is a technological advancement of healthcare practice which adopts the proportionality method while treating a patients. While treating non communicable disease the individual autonomy respected where as while treating a larger mass in epidemic the social benefit is adopted.

4.1. Theoretical frame work(1) followed

The theoretical framework comprised of original model of Ajzen's "Theory of Planned Behavior" that included variables of model 1. Attitude towards behavior, 2. Subjective norm, 3. Perceived behavioural control, 4. Intention, 5. behavior. The model is modified by Cunthia J. Finelli, Janel A. Sutkus, Donald D. Carpenter and Trevor S. Hardings in their article . A longitudinal study of the ethical development of engineering and non engineering students at a National Research University and added the measures like moral reasoning, moral obligation and past behavior.

4.2. Theoretical Model(2) followed

Tiina Kortteiso, Minna Kaila, Jorma Kamulainen, Pekka Rissannen has elaborated in their article healthcare professions intentions to use clinical guideline: a survey using the theory of planned behavior, it's determinant and latent components. The behavioral intention, attitude towards behaviour, subjective norm and perceived behavioural control. The attitude towards behavior is the human belief (profesionals/clinicians) about the outcome of specific kind of behavior shown for any

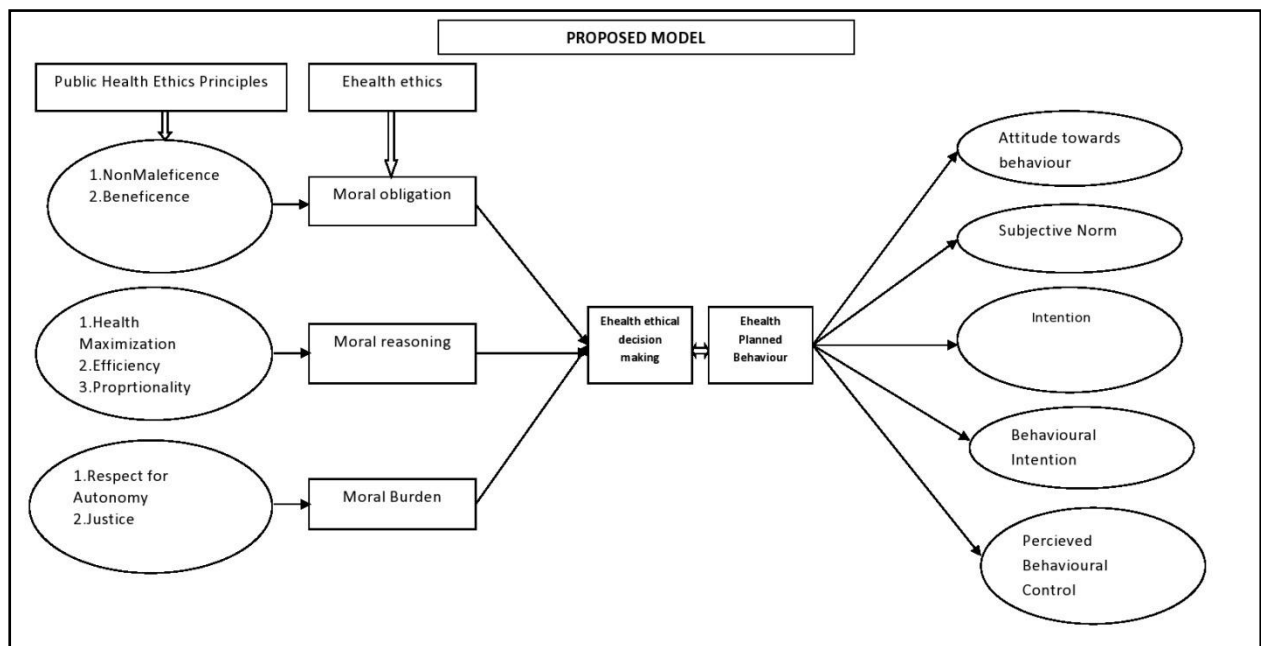
healthcare practice or clinical guideline such as ehealth. The second component subjective norm is comprised of human belief regarding specific domain and thinking of peer and superior on the professional which influences the behavior of professional. The perceived behavioural control refers to the professional's control over his own decision making to give any healthcare practice such as ehealth.

4.3. Model Proposed by author

The author modifies the previous model and divides the public health ethical principles in to 3 group. In first group non-male ficence and beneficence which referred as moral obligation. In second group Health maximization, efficiency and proportionality are there which is referred as moral reasoning. In third group respect for autonomy and justice are kept which is referred as moral burden. These 3 moral values controls ehealth decision making which influences ethical planned behavior which is again controlled by latent component factors such as attitude towards behavior, subjective norm, perceived behavioral control, Intention and behavior.

4.4. Materials & Methodology

Proposed Model



4.4. Description regarding the proposed Model

The author has tried to establish a relation between 2 models derived from 2 different literature as mentioned in the literature review 1. Ehealth ethical decision making and 2. Ehealth ethical planned behaviour. The proposed model shows there is relation between different type of public health ethical principle and different factors of ethical planned behaviour.

4.5. Sample Design-The author have used a random sampling of 37 respondents of City Hospital, VSS medical College, MKCG Medical College. The questioneres were collected by telephonic interview and 37 respondents were tabulated.

4.6. Research Design- The 5 point likert scale is used assess the responses. i.e No Impact(1), Little Impact(2), Neutra (3), Strong Impact(4),Very strong Impact(5).The author used one way Anova method to verify the significance of moral obligation, moral resoning, moral burden and ethical planned behavior factors like attitude towards

behavior, behavioural intention and intention. The perceived behavioral control and subjective norm is ignored as the items related to the factors in the questioner were insignificant by number .If the F score is more the F –table value, than the there is significance of the literacy component exists.

4.7. Survey Instrument tool- The author used a questions having 15 questions of 3 group i.e Moral Obligation(3), Moral Resoning (8), Moral Burden(4). The questions are related to factors of ethical planned behavior are attitude towards behavior(4), behavioural intention(6), Intention(3), perceived behavioural control(1), subjective norm(1).The perceived behavioural control and subjective norm ignored for convience as the items related to these factors are very less and insignificant in the survey questioner.(questionere attached as annexure-1).

4.8. Research Methodology- One way-ANOVA is used for assessing the significance level of ehealth ethical decision making related public health ethical principle and ehealth ethical planned behavior factors. If the calculated F



value is more than table –F value than the that category has positive significance in ehealth ethical decision making.

- First step- Mean of all samples calculated.
- Second step- Grand Mean calculated by Mean/sample no
- Third step-Sum of Squares(SS) is calculated by multiply the (n-1) to square of(Mean- Grand Mean)
- Fourth Step- SS between(SS.b)= sum of all SS
- Fifth step-Mean Square between(MS.b) is calculated by

dividing degree of freedom between of groups (SS.b/k-1)

- Sixth step- SS within
- A. Square of standard deviation of each sample calculated.
- B. Multiply (n-1) by square of standard deviation.
- C.SS .w is sum of (n-1)*ST DEV square
- Seventh Step-MS within –SS.w/(N-K)
- Where N is total no of items in the sample and here n is no items in the group. And K is the sample no.
- Eight Step- Calculate F= MS bet/MS within

4.8. Result

Sl. No.	Values	Moral Obligation	Moral Resoning	Moral Burden
1	Grand Mean	3.225225	3.597973	3.858108
2	SS BETWEEN	22.69069	28.46706	50.4527
3	MS BETWEEN	0.630297	0.790752	1.401464
4	SS WITHIN	79.33333	198.625	60.75
5	MS WITHIN	1.072072	0.766892	0.547297
6	F=MS.b/MS w	0.587924	1.031112	2.5607
7	Table F value	2.48872	1.92692	2.27607
		Insignificant	Insignificant	Significant

- From the One way ANOVA test, the author tested the significance level of Moral obligation, moral resoning, moral burden. The Moral Burden has strong positive significant influence on ehealth decision making.

Sl. No.	Values	Attitude towards behaviour	Behavioural Intention	Intention
1	Grand Mean	3.195946	3.743243	3.810811
2	SS BETWEEN	26.67568	20.9985	14.01802



3	MS BETWEEN	0.740991	0.583292	0.389389
4	SS WITHIN	146.1325	157.1667	60
5	MS WITHIN	1.316509	0.84955	0.810811
6	F=MS.b/MS w	0.562845	0.686589	0.480247
7	Table F value	2.27607	2.04925	2.48872
		Insignificant	Insignificant	Insignificant

From the One way ANOVA test, the author tested the significance level of Attitude towards behavior, behavioural intention and intention. None of the factors has positive significance on ehealth ethical planned behavior.

5. Conclusion

- Though the author found positive significant influence of moral burden on ehealth ethical decision making and ehealth planned behaviour, there is long way to go. Other factors may be improved by Govt. support as literacy amongst healthcare professionals and health education literacy by Ashas. But other factors has to significantly designed for better influence.

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