

## Original Research Article

# Psycho-social needs fulfilment- can it be a predictor of otorhinolaryngological services outcome of a rural health training centre?: a study by wellness triangle analysis

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## ABSTRACT

**Background:** Primary health care approach in ENT health care delivery; has shown to be a budding strategy in alleviating the ENT disease burden in the rural of India, as evident from literature. However the impact of Psycho-social needs fulfillment associated with ENT diseases for achieving optimum ENT care has not been studied till now, which was the main issue addressed by this study.

**Methods:** A Prospective study was done on needs of ENT patients in 6 villages (sampled randomly); in a catchment area of a rural health training centre (RHTC) of a Medical College in western Uttar Pradesh (Muzaffarnagar) from 1<sup>st</sup> January 2015 to 30<sup>th</sup> June 2016 by way of a Wellness Triangle approach of WHO exploring Physical, Social and Mental needs from ENT Specialist Services. All the needs of patients were studied by a Semi-structured Performa and data was analyzed by appropriate statistical software's.

**Results:** Among 384 patients, who attended ENT Specialist services at RHTC for 1.6 years- the majority of patients availing ENT care at RHTC were initially dissatisfied with Psycho-social support provided by ENT Specialists(77%,n=296). However when Psycho-social Component of Patients (n=311, 81%) were fulfilled by both ENT & Community Medicine faculties -the ENT Curative treatment % was higher (n=212, 55.2% vs. n=13, 3.3%, OR=9.8, RR=1.5) and this difference was also statistically significant(  $p < 0.00001$ ).

**Conclusions:** Greater psycho-social support is needed by ENT patients; apart from focus on pure curative approach by otorhinolaryngologist. The full-filing of psycho-social needs of ENT patients, needs more attention by both ENT specialists and community physicians for delivering ENT care by primary health care approach.

**Keywords:** Otorhinolaryngology, Rural Health training centre, Health/wellness triangle, Psycho-social need, Research analysis, Prospective study

## INTRODUCTION

The combination of physical, mental, and social well-being are the key players in maintenance and promotion of health and these are often called as the components of a "Wellness/Health triangle".<sup>1,2</sup> The Triangle Model application in Health has not only an advantage of specifying the variables to be measured, but also it is

flexible enough to accommodate both qualitative and quantitative approaches in them.<sup>3</sup> Health/Wellness Triangle Model is found to be an appropriate one in many areas of health system such as seen in evaluations of health IT systems with their good adoption rates.<sup>3</sup> Moreover adoption of such kinds of Models have also not only indicated; their usefulness in terms of creating awareness of the common diseased conditions, but they

have also shown potential in decreasing the burden of the many diseases in the community including ENT diseases.<sup>4,5</sup>

In rural community of India; there is a sufficient burden of ENT diseases, where the prevalence of ENT disorders around 4.3% of the rural population have been reported and there are also studies pointing towards higher prevalence of oto-rhino-laryngological morbidities in pediatric population.<sup>6-9</sup> This situation of ENT diseases gets further complexed by the fact that, as there are only a few population-based epidemiological studies on ENT psycho-social assessments among adults.<sup>10,11</sup>

Although many studies have explored the physical needs of ENT patients from pediatric age group to elderly in Primary health care to tertiary health care set ups across the world.<sup>6-16</sup> Such kind of studies have also shown that, they can help in effective treatment prioritization of ear, nose, throat disorders with an added advantage in planning and resource allocation, which is relevant in Indian context due to the presence of higher prevalence of otorhinolaryngological morbidities and scarce resources.<sup>6-17</sup> It has also been seen from studies that even the most common ENT disorders presenting to the emergency department can be tackled at the level of primary health care level.<sup>4,16-19</sup> However important areas such health education, socioeconomic status and primary health facilities services as a community oriented otorhino laryngological care has been an ignored agenda, despite its potential to reduce the prevalence of ENT diseases as evident from studies.<sup>14,16</sup> So the issue of Psychosocial aspects in terms of Mental and Social needs has always been an ignored area in the field of Otorhinolaryngology.

Therefore this present study explores an impact of fulfilling, Mental and Social needs on curative ENT care by way of a wellness/ health triangle approach of WHO on ENT Patients in a catchment area of a Rural Health training centre of a medical college in western part of state Uttar Pradesh in India. Moreover no such kind of study has been done so far in area of a rural health training centre of a Medical College in India, making this study unique in its own kind.

## METHODS

The main objective of this study was to know the impacts of fulfilling Psycho-social needs of patients availing ENT specialist services from a rural health training centre on overall ENT treatment seeking- by way of using Wellness triangle approach. First the approval of Ethical Committee of the Institution was sought, followed by health centre's Patients consent for their participation in study was done followed by their enlisting. The consent were taken after explaining the implications of this study.

The study was done from 1<sup>st</sup> Jan 2015 to 30<sup>th</sup> June 2016 (1 year and 6 months) as per study protocol approval. The

study was done in the catchment area (in 6 villages) of Rural health training centre (RHTC-Bilaspur) because it had a catering population of 44,100 (upto 1<sup>st</sup> Jan 2015) covering 6 villages (i.e. Dhandhera, Bhagwanpuri, Shernagar, Bilaspur, Makhiyali and Sikheda). The RHTC area was chosen for this study-because the Medical college ensured the regular availability of Clinical specialist from Monday to Saturday at RHTC. Here the ENT specialist visited at RHTC on Every Monday.

Due to no clear-cut availability of prevalence of social and mental needs of ENT care, in our study setting it was assumed that at least 50% Psycho-Social needs of ENT patients may be prevailing there as per WHO guidelines. This was done to ensure that all ENT patients in total-from all villages had got incorporated in terms of minimum sample size for this study.

First of all in enlisting; all patients belonging to all 6 villages was done in year 2015 (from 1<sup>st</sup> January 2015) and out of them- only those with any kind of Ear, Nose, Throat disorder were followed till 2016 (till 30<sup>th</sup> June). The ENT patients who were seen at RHTC, their residences in these 6 villages, were first enlisted from this RHTC area. Then all these ENT patients were taken for this study in respective villages at their home. So the sufficient representativeness of population for study was maintained, without any bias.

Out of overall 12,300 patients belonging to 6 villages in 2015 (1<sup>st</sup> Jan-31<sup>st</sup> Dec) -272 ENT patients were noted, and 7700 patients only- till 30<sup>th</sup> June 2016 from 1<sup>st</sup> January 2016 -128 were taken up for this study( total of 400 ENT patients- who were seen at RHTC ) were enrolled as ENT patients. From these registered 400 ENT patients seen at RHTC Bilaspur, their respective home addresses were finally noted and were taken for further follow up in study in all 6 villages at their homes. In the first year (2015) of study all kinds of ENT Disorders were noted (identification of physical needs). From 2<sup>nd</sup> year (2016) all ENT patients Psycho-social needs were identified jointly by ENT and community medicine faculties and finally the response of giving Psychological needs fulfilment by both ENT Specialists and community medicine faculties on the full curative treatment provided by ENT Specialists were seen. However 16 patients could not be followed up in the study- so they had to be discarded, so final sample size was only 384.

In our study- only patients with any kind of ear, nose, throat disorder seeking treatment from ENT Specialist service at RHTC in study duration belonging to sampled villages were taken. It was also ensured that patients of ENT disorder visited regularly to RHTC in the study by motivation of whole RHTC staff- so that the patients follow up remains good. However responses of children <10 years were excluded to obtain a better quality response of respondents.

The data on ENT Care needs of patients studied by various Performa's was analyzed by appropriate statistical software such as Epi-info (v-7).

Finally this prospective study was completed by applying a research method of Wellness/Health Triangle Approach of WHO exploring social and mental needs of ENT patients from ENT Specialist Services. The wellness/health triangle approach of WHO consists of measurement of the different aspects of health such as Physical, Social, and Mental Health. First the Physical needs of patient related to ENT diseases in all patients were noted as per the perceptions of patients and were future checked by Observations of authors in the field. Then mental (psychological) health which dealt with how patients thought, felt and coped with ENT diseases and this aspect was probed from patients on their treatment received related to ENT Diseases, with which they had suffered. Similarly Social Health for ENT Diseases was seen in the way the patients reacted people within their environment; such as need of family relationships, peer relationships and doctor –patient relationships after ENT services received from ENT specialists, on their treatment related to ENT Diseases by patient.

In health/wellness triangle analysis-first physical needs in the form of ENT disorders were identified- then these patients were assessed for their psycho-social needs and its consequent impact on Physical needs. The health/wellness triangle analysis was done by marking the appropriate number on the open options that best categorized the ranking for each statement given for treatment of ENT diseases. Then by adding up the numbers it gave a sub total for each section of physical,

mental and social needs for ENT diseases. At the end, we added all 3 sub totals for each section to give a final total for the entire assessment. The scoring system at the end was done to see how patient ranked on physical, mental & social needs for ENT diseases and % were calculated for making wellness triangle for elucidating the whole picture of needs of ENT patients.

## RESULTS

In our study, due to loss of Follow up of 16 patients who did not turn up, only 384 ENT patients were finally enrolled in this prospective study. It was seen that only 2% of overall patients availed ENT Specialist services as part of the General OPD Services in 1.6 years duration from 1<sup>st</sup> January 2014 to 30<sup>th</sup> June 2015, which was although higher in 2014(2.2%) as compared to 2015 (1.6%) and this ENT services usage more from Bilaspur village (35.1%) and least from village Sikhera (8.9%).

Out of total 384 patients, who attended ENT Specialist services at RHTC for study duration- maximum felt physical need was for Minor ENT procedures (63%, n=241), followed by Hearing test requirements (20%, n=77) and ear/nose drops requirement for Ear/Nose disorders (17%, n=66). The majority of patients availing ENT care at RHTC, however were dissatisfied with Psycho-social support provided by ENT specialists (77%, n=296) and felt that Psychological Services should be frequently available from both ENT specialists and community medicine faculties (81%, n=311) at RHTC and even they also felt that Social component could also be fulfilled by community medicine faculties posted there (n=88, 33%) as shown in Table 1.

**Table 1: Profile of type of needs of ear nose throat disorders among patients availing ENT specialist services at rural health training centre [N=384].**

Type of Need	No. of ENT Patients	% of ENT Patients
Physical needs [multiple responses]		
Need Minor ENT Procedures on the first Visit	241	63
Need Hearing test to be done immediately	77	20
Ear/Nose drops requirement for Ear/Nose disorders	66	17
Psychosocial needs [Multiple responses]		
ENT Specialists unsatisfactory role in giving psychosocial support to patients	296	77
Community Medicine teachers Can give social support to ENT patients	88	33
ENT & Community Medicine Specialists should frequently manage the social and mental problems associated with ENT disorders	311	81

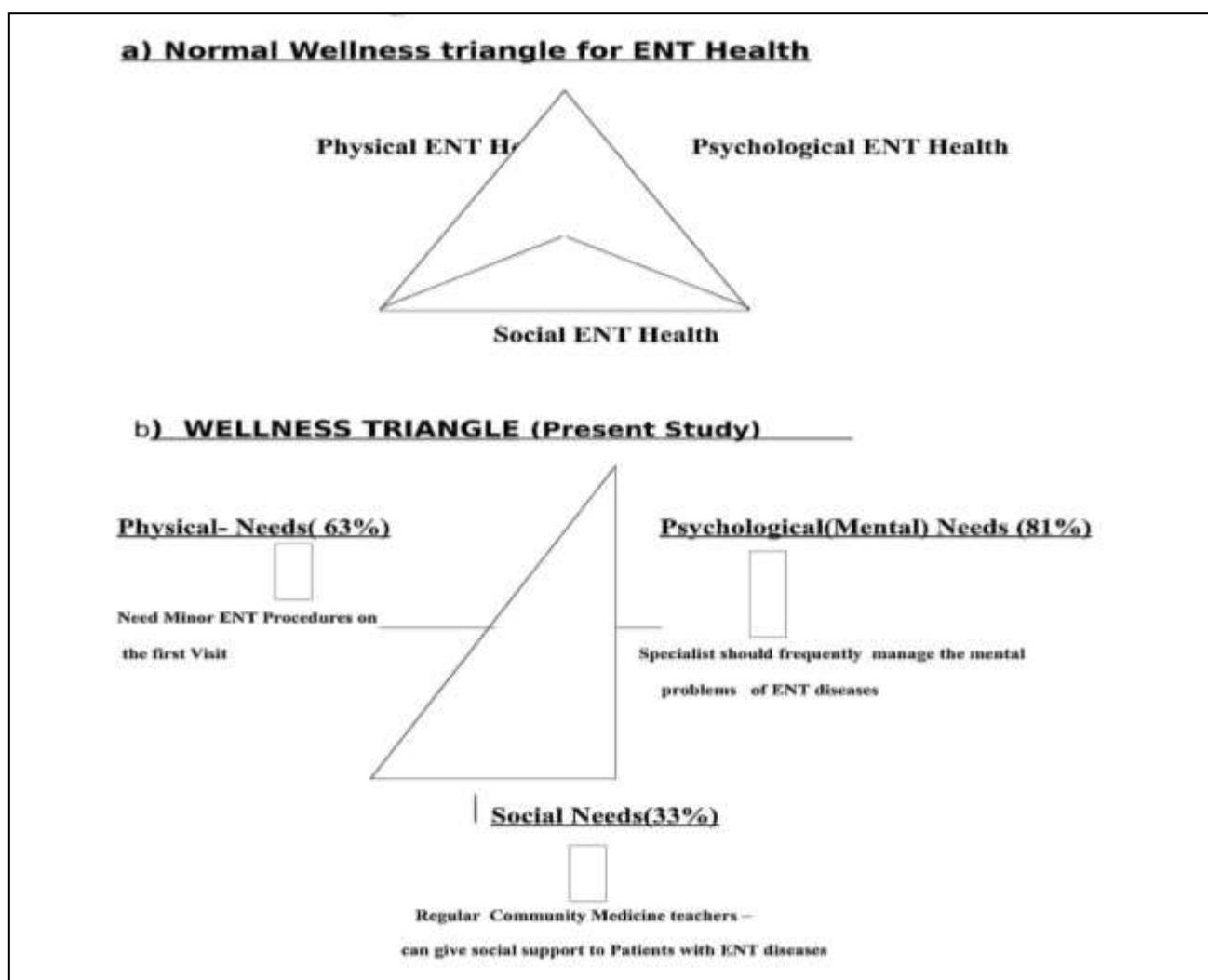
It was also seen that when ENT Specialists with the help of community medicine specialists- managed the social and mental problems associated with ENT disorders and fulfilled the Psycho-social component of patients (n=311, 81%) -the ENT curative treatment % was higher (n=212,55.2% vs. n=13,3.3%, OR=9.8, RR=1.5) and this

difference was statistically significant( p<0.00001). It was also interestingly found that- only in 58.5% of ENT patients psycho-social component were fulfilled however out of them (94.2%) completed full curative ENT treatment as in Table 2.

**Table 2: Profile of Patients with their psycho social components fulfilled by ENT and community medicine specialists and its associated impact on achievement of ENT curative treatment (N=384).**

Curative services completed by ENT Patients	ENT & community medicine specialists-Managed the social and mental problems associated with ENT disorders (N=384)		Total
	Psycho-social component fulfilled (n=311)	Psycho-social component not fulfilled (n=73)	
Full curative ENT treatment completed	212 (55.2%)	13 (3.3%)	225 (58.5%)
Full curative ENT treatment not completed	99 (25.7%)	60 (15.8%)	159 (41.5%)
<b>Total</b>	<b>311 (81%)</b>	<b>73 (19%)</b>	<b>384 (100%)</b>

Chi-Square:  $\chi^2=61.8$ , d.f =1,  $p<0.00001$ ; OR=9.8, 95% CI=5.1-18.8, RR=1.51.



**Figure 1: Wellness triangle analysis of needs for ENT disorder patients as compared to Normal Wellness triangle.**

When wellness triangle analysis was done for all the 3 needs- it was skewed primarily towards psychological needs (81%) as compared to physical needs fulfilment (61%) and social needs (33%) for their ENT disorders as shown in Figure 1.

**DISCUSSION**

It has been seen that even the most common ENT disorders could be managed at the level of primary health care level, as such services are also provided by private

medical colleges in health system of India.<sup>4,6-11,19-21</sup> So the role of Rural health training centres<sup>7</sup> in delivery of community oriented ENT care by primary health care approach; with the focus on psycho-social needs can be important as detailed in our study.

In our present study, around 2% of patients availing ENT Specialist services even from 6 catered villages by RHJTC indicates; low popularity of ENT Specialist services in the study area, possibly due to lack of fulfilment of many factors- out of them one could be focus primarily on physical needs of patients and ignoring the area of psychosocial needs. This could also be due to fact that -the majority of patients availing ENT Specialist services at RHJTC were - adult males of Muslim religion with illiterate background; who might not have been just satisfied by focus, only on curative component of ENT care.

In our study we found that, maximum felt physical need was for Minor ENT Procedures, followed by hearing test requirements and Ear/Nose drops requirement for Ear/Nose disorders which indicates physical ENT care needs are in great demand. This finding was also in unison with many other studies.<sup>4,6-11,17,21,22</sup> For decreasing such burden of the ENT diseases in the community- few study have suggested the adoption of primary health care delivery model of ENT disease services.<sup>4,21,22</sup> For such kind of primary health care approach in care of ENT diseases- there is a need to look attentively at Physical, Mental and Social aspects of ENT disorders. It has been evident from literature that for increasing awareness of the people in developing countries on ENT diseases – adoption of modes such as social campaigns and health education aimed at providing quality ear, nose and throat health care services may also be a one answer for this issue.<sup>6-11,21,22</sup>

The most important finding in our study was that the majority of patients availing ENT care at RHJTC, however were dissatisfied with Psycho-social support provided by ENT Specialists and majority felt that psycho services should be frequently available from ENT & community medicine specialist at RHJTC and even majority had a feeling that this component could be fulfilled by community medicine teachers posted there. This indicates that there is a dire need of psychosocial services by patients for ENT care in our study area. Many studies in past have also emphasized on role of psychological factors as an important determinants of treatment outcomes in other diseases and also reveal that needs assessments must be comprehensive for patients.<sup>23,24</sup> It has also been seen from literature that discussing one's feelings about the diagnosis, and attention to other psychosocial issues, can also predict patient satisfaction as also found in our study.<sup>25</sup>

However clear cut evidence on effectiveness of psychosocial intervention in area of ENT disorders such as for patients with head and neck diseases such cancer (an

ENT surgeon domain), Meniere's Diseases and hearing loss is still a gray area as indicated by few studies.<sup>26-28</sup> But few studies are indicating that an ENT physician cum surgeon needs to have an understanding of impact of hearing loss on quality of life and must understand the community and cultural attitudes to ENT diseases.<sup>28,29</sup> ENT physician cum surgeon should also understand that patients in poorer socio-economic situations have higher rates of head and neck disorders and must also know that how community-specific aspects of oro-mucosal disease may be related to lifestyle for better outcomes in their ENT Practice as found in studies, just similar to findings of our study.<sup>28,29</sup>

Very interestingly, it was finally found in our study that when ENT specialists with the help of community medicine specialists managed the social and mental problems associated with ENT disorders and fulfilled the psycho-social component of patients -the ENT curative treatment were higher than to significant statistically ( $p < 0.0001$ ). It has been seen from literature that ENT disorders such as hearing loss also have a direct impact on mental health, so link with Psycho-social component cannot be ruled out, as found in our study also.<sup>30</sup> Many other studies have also indicated that, the psychological sufferings associated with ENT disorders and their consequent surgeries are generally obstacle to their physical recovery and their return home in good condition just similar to the findings of our present study.<sup>21,22,31,32</sup>

From our prospective study, therefore it is evident that by taking into account the multiple factors such as focus on mental and social needs apart from physical needs of ENT patients is the issue prevailing in the study area for which both ENT specialist and Community Physicians needs to think on this issue seriously. The Skewness of wellness triangle primarily towards psycho-logical needs suggests-this need is greatest among ENT patients. Therefore the 3 sides of a any Health/Wellness triangle for ENT diseases should all be equal to have a perfect triangle for achieving balanced Physical, mental and social health of ENT part of body so as to live a truly healthy life as found in this study just similar to the original concept of health triangle analysis.<sup>31,32</sup>

#### **Limitations of study**

Generalization of study finding should be done with caution as only small sample of ENT patients were taken from sampled villages. Lack of a deeper psycho-social analysis is also a further constraint in our study.

#### **CONCLUSION**

Our study indicates that; the greater Psycho-social support is needed by ENT patients apart from physical ENT care needs; for this need even posted community medicine faculties at RHJTC can be one of the options for proper management of ENT disorders at RHJTC. Authors

however suggest; further study of all other psycho-social factors in combination on this issue in future studies at multiple centres, before jumping towards a definite conclusion.

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