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QUALITY OF LIFE OF TUBERCULOSIS FEMALE PATIENTS

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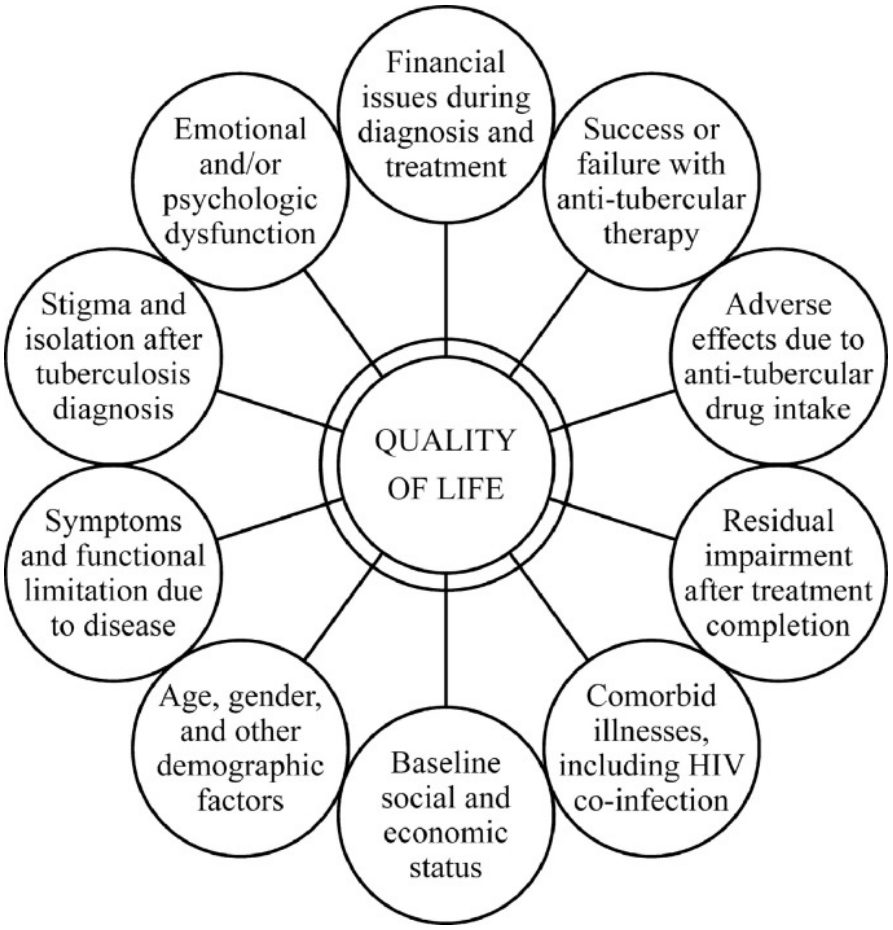
ABSTRACT
Tuberculosis diagnosis and treatment currently revolves around clinical features and microbiology. The disease however adversely affects patients' psychological, economic, and social well-being as well, and therefore our focus also additionally needs to shift towards quality of life (Quality Of Life). The disease influences all Quality Of Life domains and substantially adds to patient morbidity, and these complex and multidimensional interactions pose challenges in accurately quantifying impairment in Quality Of Life. Both generic and specific Quality Of Life scales show a wide variety of derangements in scores, and results vary across countries and patient groups. In particular, diminished capacity to work, social stigmatization, and psychological issues worsen Quality Of Life in patients with tuberculosis. Although Quality Of Life has been consistently shown to improve during standard anti-tubercular therapy, many patients continue to show residual impairment. It is also not clear if specific situations like presence of comorbid illnesses, drug resistance, or co-infection with human immunodeficiency virus additionally worsen Quality Of Life in these patients. There is a definite need to incorporate Quality Of Life assessment as adjunct outcome measures in tuberculosis control programs. Governments and program managers need to step up socio-cultural reforms and health education, and provide additional incentives to patients, to counter impairment in Quality of Life.[1]

KEYWORD: Tuberculosis, Female, Stigma, Communicable Disease, Quality Of Life

1. INTRODUCTION: The impact of any disease, especially a chronic illness like tuberculosis, on an individual patient is therefore often all-encompassing, affecting not only his physical health but also his psychological, economic, and social well-being.Social relationship component is worst affected among female Tuberculosis patients probably because of the stigma associated with Tuberculosis. Quality Of Life can be used as an indicator of the quality of health care services and a part of the treatment plan for patients such that its evaluation in the domain of chronic diseases can provide of heath care providers with more information about patients' health status and serve as a useful guide to improve the quality of treatment and care

services.Standard indicators of the quality of life include wealth, employment, the environment, physical and mental health, education, recreation and leisure time, social belonging, religious beliefs, safety, security and freedom. There is an ever-increasing interest in evaluating and improving quality of life among patients with chronic diseases.The factors that have been cited as most important in influencing Quality Of Life in patients affected with Tuberculosis, have been long-term treatment; multi-drug therapy; toxic reactions and side effects of medications; adherence to drug regimen; social impacts; social support; social acceptance of the illness; family; changes in lifestyle; patients' marital status; extent of access to health care services; socioeconomic status; patients' and their family's knowledge of the illness, treatments; as well as complications of tuberculosis.[1] According to the World Health Organization, health is defined as a state of complete physical, mental, and social well-being and not a mere absence of disease or infirmity.[2]



(HRQOL) Health-related quality of life is measured using two summary scores: Physical and mental health components. The physical health components score measured four domains:

physical function, physical role, bodily pain and general health. The mental health components score also measured four domains: vitality, social functioning, emotional role and mental health. Physical problems and functional impairment due to emotional distress were the lowest from all domains. Pulmonary tuberculosis (Tuberculosis) impairs respiratory physiology and functional ability, resulting in economic and social dependence upon others. Patients with tuberculosis especially multi drug resistant (Multi Drug Resistance-Tuberculosis) suffer from social isolation, stigma, lack of support and economic constraints.[3]

2. MATERIAL & METHODS

It is a Cross-Sectional study design.

Sample Size- All the Patients visited the Jaipur National University (IMSRC) hospital during the tenure of 6 months (internship Period). Total sample taken is 164.

Study will be carried out after taking Ethical clearance from the Institutional committee and after taking informed consent From Participants.

Identifying female patients diagnosed as Pulmonary Tuberculosis

Patients are interviewed according to Pre-Designed and Pre-tested Questionnaires.

Operational definitions-

Each WHOQOL facet can be characterized as a description of a behavior, a state of being, a capacity or potential, or a subjective perception or experience. For example, pain is a subjective perception or experience; fatigue may be defined as a state; mobility may be defined either as a capacity (ability to move around) or as a behavior (actual report of walking). A definition was written for each of the facets of quality of life covered by the WHOQOL assessment.

Overall quality of life and health these questions examine the ways in which a person assesses his/her overall quality of life, health and well-being.

DOMAIN I - PHYSICAL DOMAIN

1. Pain and discomfort this facet explores unpleasant physical sensations experienced by a person and, the extent to which these sensations are distressing and interfere with life. Questions within the facet include the control the person has over the pain and the ease with which relief from pain can be achieved. The assumption is made that the easier the relief from pain, the less the fear of pain and its resulting effect on quality of life. Similarly changes in levels of pain may be more distressing than pain itself. Even when a person is not actually in pain, either through taking drugs or because the pain is by its very nature on and off (e.g. migraine), his/her quality of life may be affected by the constant threat of pain. It is acknowledged that people respond to pain differently, and differing tolerance and acceptance of pain is likely to affect its impact on quality of life. Unpleasant physical sensations such as stiffness, aches, long-term or short-term pain, or itches are included. Pain is judged to be present if a person reports it to be so, even if there is no medical reason to account for it.

2. Energy and fatigue this facet explores the energy, enthusiasm and endurance that a person has in order to perform the necessary tasks of daily living, as well as other chosen activities such as recreation. This may extend from reports of disabling tiredness to adequate levels of energy, to feeling really alive. Tiredness may 58 results from any one of a number of causes, for example illness, problems such as depression, or overexertion. The impact of fatigue on social relationships, the increased dependence on others due to chronic fatigue and the reason for any fatigue are beyond the scope of questioning, although they are implicit to the questions in this facet and facets concerned specifically with daily activities and interpersonal relationships.
3. Sleep and rest this facet concerns how much sleep and rest, and problems in this area, affect the person's quality of life. Sleep problems might include difficulty going to sleep, waking up during the night, waking up early in the morning and being unable to go back to sleep and lack of refreshment from sleep. The facet's focus is on whether sleep is disturbed or not; this can be for any reason, both to do with the person and to do with the environment. The questions in this facet do not inquire into specific aspects of sleep such as waking up early in the morning or whether or not a person takes sleeping pills. The question of whether a person is dependent on substances (e.g. sleeping pills) to help him/her sleep is covered in a separate facet.

DOMAIN II - PSYCHOLOGICAL

4. Positive feelings This facet examines how much a person experiences positive feelings of contentment, balance, peace, happiness, hopefulness, joy and enjoyment of the good things in life. A person's view of, and feelings about the future are seen as an important part of this facet. For many respondents this facet may be regarded as synonymous with quality of life. Negative feelings are not included as these are covered elsewhere.
5. Thinking, learning, memory and concentration this facet explores a person's view of his/her thinking, learning, memory, concentration and ability to make decisions. This incorporates the speed of thinking and clarity of thought. Questions disregard whether a person is alert, aware or awake, even though these underlie thinking, memory and concentration. It is acknowledged that some people with cognitive difficulties may have no insight 59 into their difficulties, and in these cases proxy evaluations may be a necessary addition to the person's subjective evaluation. A similar problem may be a reluctance to admit to problems in this area among some respondents.
6. Self-esteem this facet examines how people feel about themselves. This might range from feeling positive about them to feeling extremely negative about them. A person's sense of worth as a person is explored. The aspect of self esteem concerned with a person's feeling of self-efficacy, satisfaction with oneself and control is also included in the focus of this facet. Questions are likely to include people's feelings about themselves in a range of areas: how they are able to get along with other people; their education; their appraisal of their ability to change or accomplish particular tasks or behaviors; their family relations; and their sense of dignity and self-acceptance. To some people self-esteem depends largely on how they function, whether at work, at home or how they are perceived and treated by others. In some cultures self-esteem is the esteem felt within the family rather than individual self-esteem. It is assumed that questions

will be interpreted by respondents in ways that are meaningful and relevant to their position in life. Questions do not include specific references to body image and social relationships as these are covered in different areas. However, the sense of self-worth that comes from these areas is intended to be covered by the questions though at a more general level. It is acknowledged that some people may find self-esteem difficult to talk about, and questions are framed to try taking this into account.

7. Body image and appearance this facet examines the person's view of his/her body. Whether the appearance of the body is seen in a positive or negative way is included in this facet. The focus is on the person's satisfaction with the way he/she looks and the effect it has on his/her self-concept. This includes the extent to which "perceived" or actual bodily impairments, if present, can be corrected (e.g. by make-up, clothing, artificial limbs etc.). How others respond to a person's appearance is likely to affect the person's body image very considerably. The phrasing of the questions aims to encourage respondents to answer how they really feel rather than how they feel they should respond. In addition they are phrased so as to be able to 60 include a person who is happy with the way they look as well as someone who is severely physically handicapped.

8. Negative feelings this facet concerns how much a person experiences negative feelings, including despondency, guilt, sadness, tearfulness, despair, nervousness, anxiety and a lack of pleasure in life. The facet includes a consideration of how distressing any negative feelings are and their impact on the person's day-to-day functioning. Questions are framed so as to include people with quite disabling psychological difficulties such as severe depression, mania or panic attacks. Questions do not include poor concentration or the relationship between negative affect and the person's social relationships because these are covered elsewhere. Nor do questions include any detailed assessment of the severity of the negative feelings.

DOMAIN IV - SOCIAL RELATIONSHIPS

13. Personal relationships this facet examines the extent to which people feel the companionship, love and support they desire from the intimate relationship(s) in their life. This facet also addresses commitment to and current experience of caring for and providing for other people. This facet includes the ability and opportunity to love, to be loved and to be intimate with others both emotionally and physically. The extent to which people feel they can share moments of both happiness and distress with loved ones, and a sense of loving and being loved are included. The physical aspects of intimacy such as hugging and touch are also included. It is acknowledged, however, that this facet is likely to overlap considerably with the intimacy of sex which is covered in the facet Sexual activity. The questions include how much satisfaction a person gets from, or has problems managing the burdens of caring for others. The possibility of this being both a positive as well as a negative experience is implicit to the facet. This facet addresses all types of loving relationships, such as close friendships, marriages and both heterosexual and homosexual partnerships.

14. Social support this facet examines how much a person feels the commitment, approval, and availability of practical assistance from family and friends. Questions explore how much family and friends share in responsibility and work together to solve personal and family problems. The facet's focus is on how much the person feels he/she has the support of family and friends, in particular to what extent he/she might depend on this support in a crisis. This includes how much the person feels he/she receives approval and encouragement from family and friends. The potentially negative role of family and friends in a person's life is included in this facet and questions are framed to allow negative effects of family and friends such as verbal and physical abuse to be recorded.
15. Sexual activity this facet concerns a person's urge and desire for sex, and the extent to which the person is able to express and enjoy his/her sexual desire appropriately. Sexual activity and intimacy are for many people intertwined. Questions, however, enquire only about sex drive, sexual expression and sexual fulfillment, with other forms of physical intimacy being covered elsewhere. In some cultures fertility is central to this facet, and child bearing is an extremely valued role. This facet incorporates this aspect of sex in these cultures, and is likely to be interpreted in these terms in these cultures. Questions do not include the value judgments surrounding sex, and address only the relevance of sexual activity to a person's quality of life. Thus the person's sexual orientation and sexual practices are not seen as important in and of themselves: rather it is the desire for, expression of, opportunity for and fulfillment from sex that is the focus of this facet. It is acknowledged that sexual activity is difficult to ask about, and it is likely that responses to these questions in some cultures may be more guarded. It is further anticipated that people of different ages and different gender will answer these questions differently. Some respondents may report little or no desire for sex without this having any adverse effects on their quality of life.

DOMAIN V - ENVIRONMENT

16. Physical safety and security this facet examines the person's sense of safety and security from physical harm. A threat to safety or security might arise from any source such as other people or political oppression. As such this facet is likely to bear directly on the person's sense of freedom. Hence, questions are framed to allow answers that range from a person having the opportunities to live without constraints, to the person living in a state or neighborhood that is oppressive and felt to be unsafe. Questions include a sense of how much the person thinks that there are 'resources' which protect or might protect his/her sense of safety and security. This facet is likely to have particular significance for certain groups, such as victims of disasters, the homeless, people in dangerous professions, relations of criminals, and victims of abuse. Questions do not explore in depth the feelings of those who might be seriously mentally ill and perceive that their safety is threatened by "being persecuted by aliens", for example. Questions focus on a person's own feeling of safety / lack of safety, security / insecurity in so far as these affect quality of life.
17. Home Environment This facet examines the principal place where a person lives (and, at a minimum, sleeps and keeps most of his/her possessions), and the way that this impacts on the

person's life. The quality of the home would be assessed on the basis of being comfortable, as well as affording the person a safe place to reside. Other areas which are included implicitly are: crowdedness; the amount of space available; cleanliness; opportunities for privacy; facilities available (such as electricity, toilet, running water); and the quality of the construction of the building (such as roof leaking and damp). The quality of the immediate neighborhood around the home is important for quality of life, and questions include reference to the immediate neighborhood. Questions are phrased so as to include the usual word for 'home', i.e. where the person usually lives with his/her family. However, questions are phrased to include people who do not live in one place with their family, such as refugees, or people living in institutions. It would not usually be possible to phrase questions to allow homeless people to answer meaningfully.

18. Financial resources the facet explores the person's view of how his/her financial resources (and other exchangeable resources) and the extent to which these resources meet the needs for a healthy and comfortable life style. The focus is on what the person can afford or cannot afford which might affect quality of life. The questions include a sense of satisfaction / dissatisfaction with those things which the person's income enables them to obtain. Questions include a sense of the dependence / independence provided by the person's financial resources (or exchangeable resources), and the feeling of having enough. Assessment will occur regardless of the respondent's state of health or whether or not the person is employed. It is acknowledged that a person's perspective on financial resources as "enough", "meeting my needs" etc. is likely to vary greatly, and the questions are framed to allow this variation to be accommodated.

19. Health and social care availability and quality the facet examines the person's view of the health and social care in the near vicinity. "Near" is the time it takes to get help. Questions include how the person views the availability of health and social services as well as the quality and completeness of care that he/she receives or expects to receive should these services be required. Questions include volunteer community support (religious charities, temples ...) which either supplements or may be the only available health care system in the person's environment. Questions include how easy / difficult it is to reach local health and social services and to bring friends and relatives to these facilities. The focus is on the person's view of the health and social services. Questions do not ask about aspects of health care which have little personal meaning or relevance to the person who will be answering the question.

20. Opportunities for acquiring new information and skills this facet examines a person's opportunity and desire to learn new skills, acquire new knowledge, and feel in touch with what is going on. This might be through formal education programs, or through adult education classes or through recreational activities, either in groups or alone (e.g. reading). This facet includes being in touch and having news of what is going on, which for some people is broad (the "world news") and for others is more limited (village gossip). Nevertheless, a feeling of being in touch with what is going on around them is important for many people and is included. The focus is on a person's chances to fulfill a need for information and knowledge whether this refers to knowledge in an education sense, or to local, national or international news that has some

relevance to the person's quality of life. Questions are phrased in order to be able to capture these different aspects of acquiring new information and skills ranging from world news and local gossip to formal educational programs and vocational training. It is assumed that questions will be interpreted by respondents in ways that are meaningful and relevant to their position in life.

21. Participation in and opportunities for recreation and leisure this facet explores a person's ability, opportunities and inclination to participate in leisure, pastimes and relaxation. The questions include all forms of pastimes, relaxation and recreation. This might range from seeing friends, to sports, to reading, to watching television or spending time with the family, to doing nothing. Questions focus on three aspects: the person's capacity for, opportunities for and enjoyment of recreation and relaxation.

22. Physical environment (pollution/ noise/ traffic/ climate) this facet examines the person's view of his/her environment. This includes the noise, pollution, climate and general aesthetic of the environment and whether this serves to improve or adversely affect quality of life. In some cultures certain aspects of the environment may have a very particular bearing on quality of life, such as the central nature of the availability of water or air pollution. This facet does not include Home environment or Transport as these are covered in separate facets.

23. Transport this facet examines the person's view of how available or easy it is to find and use transport services to get around. Questions include any mode of transport that might be available to the person (bicycle, car, bus ...). The focus is on how the available transport allows the person to perform the necessary tasks of daily life as well as the freedom to perform chosen activities. Questions do not enquire into the type of transport, nor do they explore means that are used to get around in the home itself. In addition the personal mobility of the individual is not included because this is covered elsewhere (Mobility).4

Socioeconomic status (SES)

Is an economic and sociological combined total measure of a person's work experience and of an individual's or family's economic and social position in relation to others. When analyzing a family's SES, the household income, earners' education, and occupation are examined, as well as combined income, whereas for an individual's SES only their own attributes are assessed. However, SES is more commonly used to depict an economic difference in society as a whole.[5]

Socioeconomic status is typically broken into three levels (high, middle, and low) to describe the three places a family or an individual may fall into. When placing a family or individual into one of these categories, any or all of the three variables (income, education, and occupation) can be assessed.

Education in higher socioeconomic families is typically stressed as much more important, both within the household as well as the local community. In poorer areas, where food, shelter and safety are priority, education can take a backseat. Youth audiences are particularly at risk for many health and social problems in the United States, such as unwanted pregnancies, drug abuse, and obesity.[6]

Additionally, low income and education have been shown to be strong predictors of a range of physical and mental health problems, including respiratory viruses, arthritis, coronary disease, and schizophrenia. These problems may be due to environmental conditions in their workplace, or, in the case of disabilities or mental illnesses, may be the entire cause of that person's social predicament to begin with.[7, 8, 9]

4. DATA ANALYSIS

For better comparison and standardization the WHOQOL BREF score was transformed to 0 – 100 scale as per protocol. The highest score was seen for Environmental (median 38) and Physical health (median 38). Lowest score was seen for social relationship (median 25) and median psychological domain score was 31.

5. RESULT

Table 1: Age distribution of study subjects

Age group (years)	N	Percentage
<20	23	14.0
20-29	31	18.9
30-39	21	12.8
40-49	26	15.9
50-59	36	22.0
60-69	18	11.0
≥ 70	9	5.5
Total	164	100
Mean ± SD	41.59 ± 18.12 years	

Above table shows that the mean age of female patients with Tuberculosis is 41.59 ± 18.12 years with most women being in 50 – 59 years (22%) group followed by 20 – 29 years (18.9%). 14% females are <20 years. only 5.5% females is aged 70 and above. This shows that TB in females is mainly seen in young and middle aged adults.

Table 2: Quality of life score of females with TB (WHOQOL BREF Score Scale 0 – 100)

Domain	Mean ± SD	Median (Range)

Physical Health (Domain 1)	35.99 ± 13.12	38 (0 – 63)
Psychological (Domain 2)	31.04 ± 13.36	31 (0 – 56)
Social relationship (Domain 3)	26.25 ± 15.58	25 (0 – 69)
Environmental (Domain 4)	39.56 ± 9.74	38 (12 – 75)

This table shows that the social relationship component is affected among female Tuberculosis patients because of the stigma associated with TB. The Psychological domain score is also low because of the same reason and gender inequality already persistent in our society specially in rural areas, aggravated in illness saturation.

Table 3: Quality of life in relation to age of female TB subjects

WHO QOL BREF Domain	Age ≤ 40 years	Age > 40 years	P value
Physical Health	37.4 ± 13.6	34.7 ± 12.6	0.204
Psychological	32.2 ± 12.6	30 ± 14	0.301
Social relationship	27.6 ± 16.2	25 ± 14.9	0.300
Environmental	40.6 ± 10.5	38.7 ± 8.9	0.210

Present table depicts that all WHO QOL BREF domain scores are lower in females aged > 40 years as compared to those aged 40 years or below, however the difference was not found to be statistically significant. This indicates that all the components of quality of life are more affected in older females but not significantly different from younger females.

Table 4: Quality of life in relation to marital status of female TB subjects

WHO QOL BREF Domain	Unmarried	Married	Widowed	P value
Physical Health	38.3 ± 13.6	37.0 ± 12.5	25.9 ± 12.3	0.002 (S)
Psychological	34.8 ± 10.5	31.2 ± 12.6	23.6 ± 19.0	0.018 (S)
Social relationship	30.4 ± 16.1	26.8 ± 15.3	15.9 ± 12.3	0.006 (S)
Environmental	42.3 ± 11.6	39.6 ± 8.6	34.8 ± 11.9	0.034 (S)

Present table depicts that all WHO QOL BREF domain scores are lowest in widowed females followed by married females and highest for unmarried females. All the difference are found to be statistically significant ($p<0.05$). This indicates that all the components of quality of life are affected in widowed females followed by married females and comparatively better quality of life is seen unmarried females. This is because of the general social exclusion of widowed females in our society, especially in rural areas and the gender inequity specially for married females in her in-laws house. Unmarried women had better quality of life is because of better support in own family as compared to support from in-laws of married female.

Table5: Quality of life in relation to type of family

WHO QOL BREF Domain	Nuclear family	Extended family	P value

Physical Health	35.5 ± 14.1	36.2 ± 12.8	0.784
Psychological	30.4 ± 14.1	31.3 ± 13.1	0.705
Social relationship	25.4 ± 17.8	26.6 ± 14.8	0.685
Environmental	40.4 ± 9.3	39.3 ± 9.9	0.501

Present table depicts that all WHO QOL BREF domain scores except environmental domain are better in females living in extended family as compared to those with nuclear family; however the difference is not found to be statistically significant. This indicates that all the quality of life is relatively better in females in extended family but not significantly different from younger females. This could be because of the better support in a typical extended family with supportive elderly members and other females.

Table 6: Quality of life in relation to occupation of female TB subjects

WHO QOL BREF Domain	Working	Housewife	Student	P value
Physical Health	35.4 ± 12.9	36.1 ± 13.5	38.1 ± 13.8	0.628
Psychological	30.6 ± 13.9	30.3 ± 13.7	33.8 ± 10.6	0.509
Social relationship	26.7 ± 15.5	23.5 ± 14.7	28.5 ± 16.9	0.411
Environmental	38.8 ± 8.8	39.9 ± 10.2	41.9 ± 12	0.334

This table illustrates that physical domain scores are lowest in working females followed housewives probably because of less time to look after themselves. Physical domains are better in students. Psychological domain is lowest in housewife and are best in students is because of differential family support. Social relationships are also lowest in housewife and best in students. Environmental domain score are lowest in working females and best in students. These differences are in all domain score are however not found to be statistically significant indicating no significant effect of occupation on quality of life.

Table 7: Quality of life in relation to socio economic status

WHO QOL BREF Domain	Lower SES	Middle SES	P value
Physical Health	35.4 ± 12.7	38.2 ± 14.6	0.255
Psychological	31.4 ± 12.9	29.7 ± 15.1	0.504
Social relationship	25.7 ± 15.3	28.3 ± 16.6	0.385
Environmental	39.8 ± 9.3	38.8 ± 11.3	0.573

Present table depicts that WHO QOL BREF physical domain and social relation domain score are slightly better in females with middle SES as compared to lower SES, however the difference is not found to be statistically significant. Psychological and environment domain scores are better in females of lower SES as compared to those with middle SES; however the difference is

not found to be statistically significant. This indicates that quality of life of females TB patients is not associated with their socio economic status.

In the below table comparison between the quality of life of Pulmonary and extra pulmonary tuberculosis patients is studied.
For this, a sample of patients of extra pulmonary Tuberculosis is taken.

Table8: Quality of life in relation to type of TB

WHO QOL BREF Domain	Pulmonary	Extra pulmonary	Both	P value
Physical Health	35.7 ± 13.7	39.3 ± 10.9	35.8 ± 7.1	0.659
Psychological	30.6 ± 13.9	36.7 ± 11.8	30.2 ± 7.2	0.318
Social relationship	25.3 ± 15.4	24.4 ± 18.4	38.1 ± 9.1	0.016 (S)
Environmental	39.5 ± 10.1	41.3 ± 10.4	38.3 ± 4.1	0.751

This table illustrates that most domain scores are better in extra pulmonary TB probably because of less stigma associated with at as compared to pulmonary TB. This difference in domain score is however not found to be statistically significant indicating no significant association of type of TB on quality of life. Social relationship is however found to be significantly better in patient with both pulmonary and extra pulmonary TB (p=0.016).

5. DISCUSSION

In this present study, the mean age of female patients with Tuberculosis is 41.59 ± 18.12 years with most women being in 50 – 59 years (22%) group followed by 20 – 29 years (18.9%). 14% females are <20 years. only 5.5% females is aged 70 and above. This shows that TB in females is mainly seen in young and middle aged adults.

The social relationship component is affected among female TB patients because of the stigma associated with TB. The Psychological domain score are also low because of the same reason and gender inequality already persistent in our society specially in rural areas, aggravated in illness saturation.

Quality of life in relation to age of female TB subjects depicts that all WHO QOL BREF domain scores are lower in females aged > 40 years as compared to those aged 40 years or below, however the difference is not found to be statistically significant. This indicates that all the components of quality of life are more affected in older females but not significantly different from younger females.

Quality of life in relation to marital status of female TB subjects depicts that all WHO QOL BREF domain scores is lowest in widowed females followed by married females and are highest for unmarried females. All the difference is found to be statistically significant (p<0.05). This indicates that all the components of quality of life are affected in widowed females followed by married females and comparatively better quality of life is seen unmarried females. This is because of the general social exclusion of widowed females in our society, especially in rural areas and the gender inequity specially for married females in her in-law's house. Unmarried

women had better quality of life is because of better support in own family as compared to support from in-laws of married female**.**

Quality of life in relation to type of family depicts that all WHO QOL BREF domain scores except environmental domain are better in females living in extended family as compared to those with nuclear family; however the difference was not found to be statistically significant. This indicates that all the quality of life is relatively better in females in extended family but not significantly different from younger females. This could be because of the better support in a typical extended family with supportive elderly members and other females. As far no such study has been reported which show Quality of life in relation to type of family.

Quality of life in relation to occupation of female TB subjects that physical domain scores are lowest in working females followed housewives is because of less time to look after themselves. Physical domain is better in students. Psychological domain is lowest in housewife and was best in students because of differential family support. Social relationship is also lowest in housewife and best in students. Environmental domain score are lowest in working females and best in students. These differences are in all domain score were however not found to be statistically significant indicating no significant effect of occupation on quality of life.

Quality of life in relation to socio economic status depicts that WHO QOL BREF physical domain and social relation domain score are slightly better in females with middle SES as compared to lower SES, however the difference is not found to be statistically significant. Psychological and environment domain scores are better in females of lower SES as compared to those with middle SES; however the difference is not found to be statistically significant. This indicates that quality of life of females TB patients is not associated with their socio economic status. As far no such study has been reported which show Quality of life in relation to socio economic status.

Quality of life in relation to type of TB that most domain scores are better in extra pulmonary TB probably because of less stigma associated with at as compared to pulmonary TB. This difference in domain score are however not found to be statistically significant indicating no significant association of type of TB on quality of life. Social relationship is however found to be significantly better in patient with both pulmonary and extra pulmonary TB ($p=0.016$).

6. LIMITATION OF STUDY

Limited area Jaipur, Rajasthan. Limited number of Patients.Inherent in cross sectional designs such as selection and information (interviewer) biases as well as confounding. I interviewed all the study participants face to face using a standard valid tool, the WHOQOL-BREF questionnaire, thereby reducing differential misclassification to the barest minimum.

7. CONCLUSION

Tuberculosis in females is mainly seen in young and middle aged adults. Social relationship is however found to be significantly better in patient with both pulmonary and extra pulmonary TB (p=0.016). Social relationship component is affected among female TB patients is because of the stigma associated with TB. The Psychological domain score is also low because of the same reason and gender inequality already persistent in our society specially in rural areas, aggravated in illness saturation. Quality of life is more affected in older females. Quality of life are worst affected in widowed females followed by married females and comparatively better quality of life is seen in unmarried females. This is because of the general social exclusion of widowed females in our society, especially in rural areas and the gender inequity specially for married females in her in-laws house. Unmarried women had better quality of life probably because of better support in own family as compared to support from in-laws of married female. Psychological and environment domain scores are better in females of lower SES as compared to those with middle SES.

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