



Development of Unmet Needs Assessment Tool in Advanced Cancer Patients



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BACKGROUND

- Advanced cancer patients face unmet needs during prolonged treatment. A patient’s supportive care needs can be classified as physical, emotional, spiritual, social, and informational, which often are closely associated with each other.¹
- This study aimed to identify key factors of multidimensional unmet needs and to develop and validate the Unmet Needs Assessment Tool (UNAT) for advanced cancer patients.

METHODS

- Using Devellis' 8-step process, a literature review identified initial components of unmet needs: informational, communication, physical symptoms, psychological issues, religious and spiritual needs, functional and independence issues, family concerns, social issues, and treatment needs.²

| Domains | study | Subdomains/ items | Prevalence | Domains | study | Subdomains/ items | Prevalence |
|----------------------------------|-------|--|------------|-------------------------------------|-------|--|------------|
| Physical | 22 | Fatigue | 18–76.3% | Psychological | 25 | “Uncertainty about the future” | 21.4–62.4% |
| | | Pain | 18–75% | | | Emotional Support | 10.1–84.4% |
| | | Sleep problems | 21.1–37.1% | | | (Anxiety: 15.3–41.8%; Depression: 15–62.4%) | |
| | | Dyspnea | 19–67.3% | | | “worry that the results of treatment are beyond your control” | 19–71.8% |
| | | Lack of appetite | 13–80% | | | “Feeling about death and dying” | 32.5–62.4% |
| Activities of Daily Living (ADL) | 11 | Gastrointestinal symptoms | 12–45.1% | Social | 9 | “Fears about the cancer spreading” | 17.6–78.8% |
| | | “Feeling unwell a lot of time” | 17.3–44.7% | | | “concerns about the worries of those close to you” | 27.9–68.2% |
| | | “not being able to do the things you used to do” | 19–46.9% | | | “Support in coping” | 24.3–57.5% |
| | | “Learning to feel in control of your situation” | 32.5–56.5% | | | “Learning to feel in control of your situation” | 32.5–56.5% |
| | | “Work around the home” | 18.6–44.2% | | | “Fear of physical suffering” | 16.7–62.9% |
| Domains | study | Subdomains/ items | Prevalence | Domains | study | Subdomains/ items | Prevalence |
| Communication | 5 | Communication | 7.7–87.9% | Health care service and information | 14 | “Being informed about things you can do to help yourself to get well” | 41–65.9% |
| Financial | 8 | Financial | 6.6–72% | | | “Having one member of hospital staff with whom you can talk to” | 32–72% |
| Spiritual | 5 | Meaning of death | 15–85.4% | | | “Being informed about your test results as soon as feasible” | 50.8–62.5% |
| | | Religious | 44% | | | “benefit and side-effects of treatment” | 4–66.7% |
| | | “being able to choose the place where you want to die” | 11–15% | | | “Being given written information about the important aspects of your care” | 42.3–52.9% |
| Autonomy | 5 | “I can do less than before” | 17–83% | Sexuality | 4 | “Being treated like a person not just another case” | 34.5–54.1% |
| | | “experiencing loss of control over one’s life” | 16–19% | | | “Being informed about cancer which is under control” | 54.1–60.4% |
| | | “Reassurance by medical staff that the way you feel is normal” | 32.5–56.5% | Nutrition | 2 | Sexuality | 5–75% |
| Patients care and support | 3 | “doctor acknowledges and shows sensitivity to your feelings and emotional needs” | 34.8–39.5% | | | Nutrition | 38.9–43.2% |

- Preliminary items (75) were selected from secondary analysis of a cancer patient unmet needs checklist by Su-Jin Koh, et al.³

- Conceptual framework of Unmet Need Assessment Tool for Advanced Cancer (UNAT-AC)

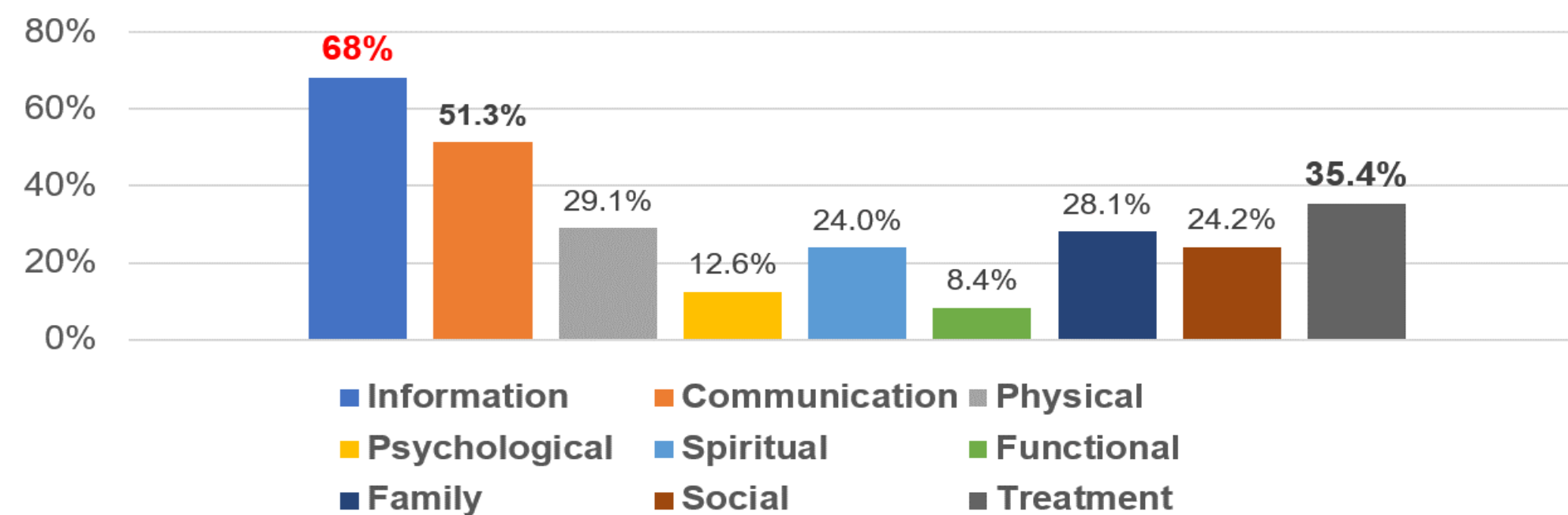
| Ferris Elements | UNAT-AC Elements | Meaning |
|--------------------|----------------------------|--|
| Disease Management | Information | -recognizing the unmet needs for disease or health status information from the patient's point of view |
| | Communication | -recognizing the need to communicate with health care professionals about diseases or health conditions and treatment |
| | Treatment | -recognizing the patient's satisfaction with the health care services they are receiving and their needs for treatment. |
| Physical | Physical Symptom | -recognizing physical symptoms etc such as pain experienced during cancer treatment |
| Psychological | Psychological | -recognizing the emotional state felt during the cancer treatment process -recognizing mental conditions associated with side effects of cancer treatment |
| Spiritual | Religion, Spiritual | -recognizing the need for religious consolation -recognizing the patient's spiritual needs, including the meaning and purpose of life |
| Practical | Functional & Self-reliance | -recognizing the patient is able to lead an independent life -recognizing the patient's support relation |
| Social | Family | -recognizing the needs within the family by changed role the patient's in the family |
| | Social | -recognizing social needs due to changes in interpersonal relationships after cancer treatment of patients -recognizing the needs of social activities |

RESULTS

- Data were collected from 246 advanced cancer patients between November 2020 and April 2021.
- General characteristics of participants (N=246)

| Characteristics | Categories | n(%) | Characteristics | Categories | n(%) |
|-----------------|--------------------|------------|-----------------|-------------------------------|-------------|
| Gender | Male | 85(34.6) | ECOG PS | 1 | 204(82.9) |
| | Female | 161(65.4) | | 2 | 32(13.0) |
| Age | | 60.34±10.3 | | 3 | 8(3.3) |
| | | | | 4 | 2(0.8) |
| Marital Status | Single | 19(7.7) | Disease | Lung cancer | 28(11.4) |
| | Married | 176(71.5) | | Gastric cancer | 4(1.6) |
| | Divorced | 32(13.0) | | Breast cancer | 119(48.4) |
| | Bereavement | 18(7.3) | | Liver cancer | 4(1.6) |
| | Etc | 1(0.4) | | Pancreatic biliary cancer | 16(6.5) |
| Education | None | 2(0.8) | Chemotherapy | Implementing | 215(87.4) |
| | Elementary | 32(13.0) | | Not implementing | 31(12.6) |
| | Middle school | 49(19.9) | | Months since diagnosis(month) | 39.70±43.02 |
| | High school | 119(48.4) | | | |
| Occupation | Graduate or higher | 44(17.9) | | | |
| | No | 177(72) | | | |
| Occupation | Yes | 69(28) | | | |

- Prevalence of unmet needs of advanced cancer patients



- Exploratory factor analysis was performed four times, resulting in 52 items across seven factors: mental (17 items), physical (15 items), family (6 items), self-determined (6 items), spiritual (4 items), social (2 items), and functional (2 items), explaining 60.3% of the variance. The fourth factor analysis showed Kaiser-Meyer-Olkin .883, Bartlett's test of sphericity 8190.335 (P<.001), and cumulative variance of 69.065%. Convergent and discriminant validity were confirmed using SPSS. The Average Variance Extracted and Convergent Validity values met the acceptable criteria.
- Criterion validity of Unmet Need Assessment Tool for Advanced Cancer (UNAT-AC) (r=.539, P<.01)

| UNAT-AC | FACT-G | | | | |
|-----------------|-------------|---------------|-------------|-------------|-------------|
| | Physical | Social/Family | Emotional | Functional | Total |
| | r(p) | r(p) | r(p) | r(p) | r(p) |
| Psychological | .475(<.01) | .086(.178) | .712(<.01) | .214(<.01) | .435(<.01) |
| Physical | .554(<.01) | .086(.180) | .326(<.01) | .283(<.01) | .389(<.01) |
| Familial | .450(<.01) | .135(<.05) | .525(<.01) | .284(<.01) | .452(<.01) |
| Communicational | -.092(.152) | .294(<.01) | -.004(.954) | .287(<.01) | .171(<.01) |
| Spiritual | .165(<.01) | -.384(<.01) | .015(.821) | -.251(<.01) | -.239(<.01) |
| Social | .017(.793) | .490(<.01) | .047(.462) | .333(<.01) | .389(<.01) |
| Functional | .504(<.01) | .102(.111) | .483(<.01) | .415(<.01) | .494(<.01) |
| Total | | | | | .539(<.01) |

- Internal consistency reliability of Unmet Need Assessment Tool for Advanced Cancer (UNAT-AC) : (Cronbach's α = 0.926)

| UNAT-AC | Cronbach's α |
|-----------------|---------------------|
| Psychological | .942 |
| Physical | .908 |
| Familial | .920 |
| Communicational | .860 |
| Spiritual | .857 |
| Social | .806 |
| Functional | .802 |
| Total | .926 |

CONCLUSION

- Unmet Need Assessment Tool for Advanced Cancer (UNAT-AC) is a reliable and valid tool for assessing unmet needs in advanced cancer patients, and can contribute to improving patients' quality of life by enabling healthcare providers to apply tailored care plans based on individual needs in clinical settings.

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